

COMMODORE

USER

INSIDE PULLOUT
Deals For Readers

Incorporating Vic Computing

Volume 1 Issue 6

March 1984

UK price 85p

No Fret for Fred
on Pet

Insure

your micro

Lightpens
seen

Deckhand:
returns

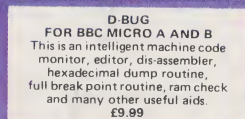
— here

they come

Victuals

THE BIG ONE:
**£1,000
COMPETITION**
Reviews: Paperclip
Word processing
Games
Gortek

OF **Σnigma**



D-BUG
FOR BBC MICRO A AND B
This is an intelligent machine code monitor, editor, dis-assembler, hexadecimal dump routine, full break point routine, ram check and many other useful aids.
£9.99

SKI RUN:
Race against the clock in this downhill time trial, watching out for the trees and rocks, plus . . .

TOWER MAN:
The tower is being invaded by monsters, you must stop them by digging holes and burying them.
£4.99

THE GAME:
One of the fastest versions of this popular arcade game; the ghosts are after you, you need fast reaction and skill for survival. 100% machine code. Also available for CBM 64.
£5.50

LUPIN:
You're attempting to steal gold bars from the banks, you must use your skill to outwit the robot guards, then escape from the guard dogs and police cars.
100% machine code.
£5.50

ARMADILLO:
Save the armadillo, help them cross the busy road and avoid the alien on the centre island, plus . .

TRACK TRIALS:
Test your driving skills, see how you can get round the course without skidding or driving into the woods.
£4.99

PONTOON/3 CARD BRAG:
Pit your wits against the VIC-KID
(fastest dealer in town). Plays to
all the rules of this well known
card game, plus

ONE ARM BANDIT:
Full nudge and hold, independent
reel spin. Break the bank before
he breaks you.
£5.50

GUNMAN:
It's high noon, a man's got to do
what a man's got to do, a shoot
out to the death, plus . . .

GOBBLER:
Help the hunger crazed food
addict eat the eggs before the
angry chicken gets you.
£4.99

Please allow 14 days for delivery.
All prices include V.A.T., postage and packing.

Please debit my Access

Card
Number[illegible]

I enclose Cheque/PO for £ _____ payable to:- **Enigma Software**
208 Aigburth Road
Liverpool L17 9PE
051-727 8050

Distributed by:- Home Computer Centre, 29 Millcroft, Crosby

Name _____

Address _____

Contents



COMMODORE 25

Editor Dennis Jarrett
Writer Bohdan Buciak
Editorial Assistant Nicky Chapman
Business Manager Annabel Hunt
Reader Services Manager Hywel David
Subscriptions Janet Crawford
Art/Production Editor Paul Hulme
Production Mike Pattenden
 Maggie Underwood,
Advertising Cathy Lane,
 Roland Richardson
Vicwear Nicki

Editorial 01-241 2448
Advertising 01-241 2417
Production 01-241 2493
Administration 01-241 2354
Subscriptions Back Issues
 (See last page) 0732-351216

Publisher's guarantee: There are no mistakes in this magazine except this one.

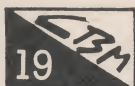


Eye on Commodore

Intrepid Commodore-watcher Henry Deckhand visited the recent Which Computer Show to check out any and every product linked, however tenuously, to our world.

Insuring your home computer

From burglary to a manic coffee-cup, your micro needs protection. Bohdan Buciak has been wading through the small-print of insurance policies to come up with some viable alternatives.

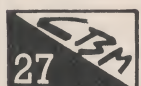


Lightpens reviewed

Lightpens might appear to be very attractive devices, but they do carry a weighty price-tag. What can they do? Are they worth the money? We put three through their paces.

User Profile: Fred Reid and the Fretful Pet

Fred Reid's enthusiasm for building and repairing guitars is matched only by his passion for computers. Bohdan Buciak went along to his diminutive workshop to find out how an ageing Pet helps to make his guitars sound better.



Letter from America: a miscellany of Vic titbits

Vic enthusiast Mike Apsey ("who needs a 64?") has been using Vics of various demeanour for a while now. We prevailed on him to assemble a pot-pourri of tips and tricks from what he's learned.

Screen Scene for the Vic

Our regular round up of Vic games.

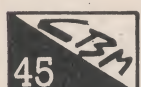


Forth on the Vic

Richard Hunt reviews *The Complete Forth* by Alan Winfield; a tome for both the novice and the seasoned Forth programmer - it's British, and it's good too!

Go with Gortek

Gortek and the Microchips is the first of Commodore's unique Basic programming series for youngsters. A good story, fun to use, effective teaching ... we helped Gortek fend off the nasty Zitrons.



Victuals

Get in tune for Monte Carlo ... Give the function keys some meaning ... and more!

Screen scene for the 64

Our reviewers with Joystick Thumb and Blistered Fingers report from the 64 games room.



WP road test: Paperclip 64 reviewed

Chris Durham continues his mammoth word processing roundup with a critical look at Paperclip for the 64. It's a little pricey but displays a wealth of features.

Another Extended Basic

Mike Todd has already looked at Simons' and BC Basic. Now he gets to grips with Ultrabasic 64, similarly promising enhancements to the Basic on the 64.

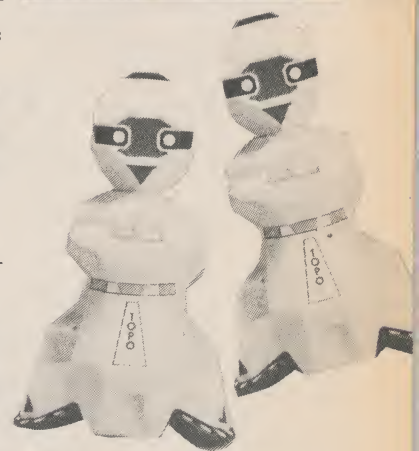
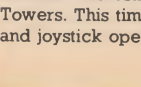


Retail management on tape?

Most business software for the 64 comes on disk, but Quick Count sells its Bookkeeping System for the Cash Trader on tape. Tony Harrington blew the dust off his datasette to check its program.

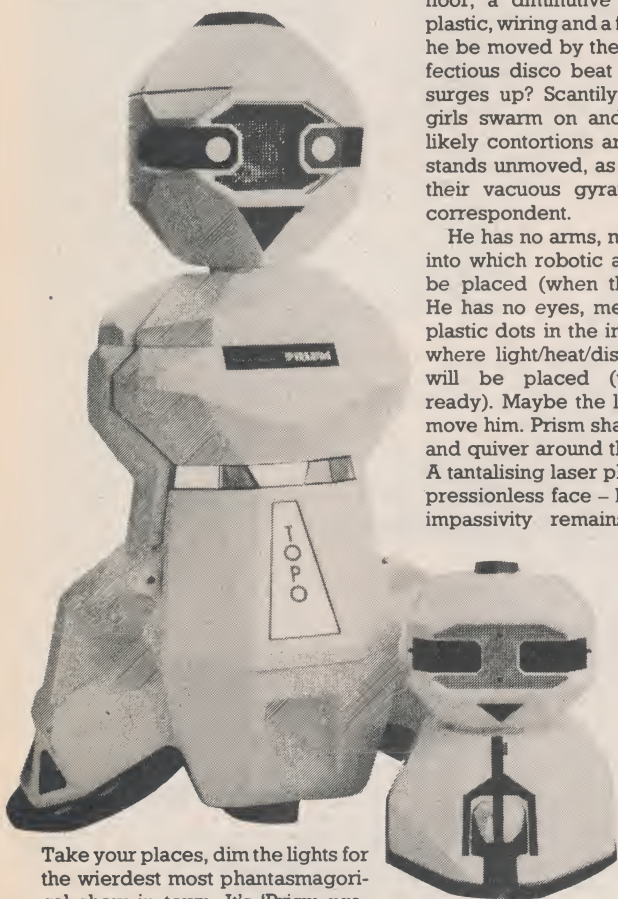
Tommy's Tips

Another interesting batch of educations straight from Tommy Towers. This time, Tommy's dealing with variables, hi-res graphics and joystick operations.



How not to fall off the table with your 64

"TOPO and FRED mark the arrival of the most exciting and practical development of silicon technology since the introduction of the personal computer", enthuses Prism's moustachioed development man, Graham Daubney. Prism? You know, the people making a fortune distributing software for the Spectrum. But who are TOPO and FRED? They're Androbots, of course.



Take your places, dim the lights for the wierdest most phantasmagorical show in town. It's 'Prism presents the Androbots' to the world. Well, not the whole world, just the world as represented by a mass of gawping dealers and press-people in London's newest, zaniest nightspot - the Hippodrome in Leicester Square. The man under the spot: William Woolard, famed for making science sound as easy as falling off a high-tech log. Lengthy panoramic oration, lots of video, megawatts of music and then ... throw off the covers, sound the fanfares - cue TOPO!

Woolard is a distinguished Tomorrow's World presenter; TOPO is distinguished by his wheels. TOPO stands alone on the dance-

floor, a diminutive three feet of plastic, wiring and a few chips. Will he be moved by the pounding, infectious disco beat that suddenly surges up? Scantly-clad dancing girls swarm on and perform unlikely contortions around him. He stands unmoved, as impervious to their vacuous gyrations as your correspondent.

He has no arms, merely sockets into which robotic arms will soon be placed (when they're ready). He has no eyes, merely a pair of plastic dots in the inscrutable face where light/heat/distance sensors will be placed (when they're ready). Maybe the light-show will move him. Prism shapes float, dart and quiver around the dancefloor. A tantalising laser plays on his expressionless face - but his robotic impassivity remains intact. Did

someone forget to put the batteries in?

Enter Bob Denton, Prism's MD. Will the force of his lofty position be able to move it? Yes, a pat on the head and he moves, he turns, he speaks (actually, there are some control buttons on the robotic cranium). He can be controlled by an infra-red link to a computer ... but he wasn't. He just trundled to the front of the stage.

Prism's press blurb announces that he can already speak and move; that he will be able to mow your lawn, do your Hoovering, fetch and carry for invalides. But there's more: "it won't be long be-

fore an Androbot can mix you a drink (shaken, not stirred you fool) fetch your slippers and then perhaps settle down to a quiet evening's ironing" ... and all for a domestic £1,500.

Well, we'll have to take their word on that. Maybe FRED (a mere junior in the Androbot family) is more in your price-range. FRED stands just one foot high. He's also controlled by infra-red beams (but he wasn't) or a link to your home computer (but he wasn't). Ah, getting more interested now?

FRED's claim to stardom is that he can hold a pen. He can draw the patterns you've created on your computer screen. He can move around at five inches per second in a four foot area. He can say 45 words too. Back to the blurb: "FRED rolls through life on a heavy-duty wheel assembly, vigilantly watching his step with a set of downward-looking sensors. He's on the alert for the table edges he knows he should avoid ..." Get off the table, FRED!

FRED will adorn your home for £200 and become a bosom companion to your Commodore 64 - very soon. But how soon? Prism is 'presently implementing' a package for that very machine. What about the other Commodore home stalwart? Sorry, FRED and Vic won't be making friends.

Prism will be marketing TOPO and FRED through a national network of dealers. TOPO is promised to arrive during February; FRED is booked to make an appearance in April. So you can, according to the blurbspeak, "enjoy the fun of the future today" ... so what fun will we be enjoying in the future? Answers on a postcard. And turn in your grave, Doctor Who.

Prism Consumer Products is on 01-253 2277



Ask away: CAP, one of Europe's leading information systems companies, has made what it calls "a strategic move" into the educational software market by buying a significant minority stake in Applied Systems Knowledge Ltd. ASK specialises in learning programs for schools and home-based micros, and has some good stuff for the Vic.

CAP paid £100,000 for its 32 per cent stake in ASK and has an option to increase its holding during the next five years ...

Number blunder: Apologies to Darren Bird for getting the phone number of his Vic 20 Users Software Library wrong in our last issue. The number should have read: 0332 831457.



Tape Tip: The most common problem on any computer cassette unit is flattening of the rubber-covered pinch roller against the metal capstan. This happens when you leave it in PLAY mode for too long; and when the Vic or 64 has finished a SAVE or LOAD it just stops the cassette motor - with the pinch roller still pressed against the capstan. An out-of-shape pinch roller can cause some variation in speed, and that in turn may mean misreads and duff SAVES. Moral: hit the STOP button when you've finished with the tape deck.

Simons' Bug: When printing out listings using Simons Basic, do not follow instructions in printer manual - instead type all printer commands on one line. For instance:

OPEN 4,4: CMD4: LIST

To print more than one listing you have to **close** all channels, switch the printer off then on again, and re-type the print instructions. If you don't use this procedure you'll get a line feed only on the printer ...

Jolly Roger Dept: Commodore's anti-piracy case against General Hardware, which sold an add-on that allows you to copy cartridges on to tape, has apparently ended in an out-of-court settlement. The bloke in question, Peter Goss, has got some freelance work from Commodore out of it. All of which is a bit of a shame, since the key legal point was therefore not settled: Goss argued that it wasn't him who was doing the pirating, it was his customers. Should the supplier have any responsibility for what the punters do - even if the product tends to encourage obviously illegal actions? The debate continues ...



The HEROic alternative

Looks like 1984's going to be a bumper year for robots. Maplin Electronic Supplies has now acquired an ambulant piece of hardware called HERO, which is developed by Heathkit, an American firm.

Maplin itself is undertaking to interface HERO to "any popular home computer", according to its blurb. It's already succeeded with Atari and Spectrum machines but it looks like having a few problems with the Vic and Commodore 64. Their 'unusual' interface means that a fair amount of jiggling around (converting to RS-232 and then to 8-bit parallel using a UART) will have to be done to get HERO to respond to commands. But don't be dismayed; HERO's price may dampen your enthusiasm a little.

An unassembled HERO will cost you £1,599, the idea being that putting it together teaches you about electronics (the fully-fashioned version costs £2,500).

HERO has speech and distance sensors, and Maplin hopes to develop a speech recognition capability for it. Controlling it can

be done directly from the computer's keyboard using an infra-red or wire link. It can be used independently too, by storing programs in its memory. But it's primarily aimed at teaching programming and introductory robotics – definitely not a toy.

Maplin is on 0702 552911.



Poetry Corner: A graffiti poem found in the University of Wisconsin's Computer Centre and quoted by Rex Malik in **Microcomputer Printout** magazine: "I am sick and tired of this machine/ I wish that they would sell it/ It seldom does what I want/ But only what I tell it."

MCP, incidentally, is reportedly up for sale – which is a bit of a shame. It started life as the Pet-only Printout, broadened its scope into a good Fun-'n'-Fact mag, was sold to a big-deal publisher called Benn Brothers a year or two ago, and is now apparently on offer again to interested parties.

EVERY commodore 64 DESERVES A DATABASE

No matter what your business or interest, with **Superbase 64** you have a totally flexible 'record' system, as big as you want it, as fast as you need it.

Create your own formats, enter your records, change layouts and data fields.

Superbase 64 gives you unrivalled control in home or office, business or professional practice, with an extensive range of features.

Superbase 64

The complete information control system for the Commodore 64. By the authors of "Easyscript", the Commodore No. 1 word processing system.



Precision
Software

Superbase 64

Precision Software Limited
6, Park Terrace
Worcester Park, Surrey KT4 7JZ
Telephone: 01-330 7166
Telex: 8955021. PRECIS G



Hypermarket

Some friends coming round to dinner? Got to get some shopping done? No problem; pop down to your local SavaCentre hypermarket – it's open until 8pm. Trundle your trolley past the deli counter, past the tinned veg ... Oh look! A whole stack of Commodore SX-64s. Must get one of those.

Hypermarkets are supposedly full of bargains. No bargains here, though. SavaCentre's selling the machine for what it calls "a typical hypermarket price"; but in fact it's the going rate, £899.95. Ah well, put it in the trolley anyway. Now for the real shopping – if there's any more room in the trolley.

Apologies

In our January single-line competition results, we inadvertently printed one entry twice – thus depriving Filippo Pozzi of Voghera, Italy, of the due credit. Here's his winning entry: and as we said before, it's a good joke ...

```
198,1: POKE 6410 PRINT
["CLR]PRESSF1TO...DREAM":
WAIT198,1: POKE 644,128:
SYS688
```

Two for the price: Audiogenic, which has taken to calling itself "the leading independent Vic-20 and Commodore 64 software house in the UK", has launched some 'dual program cassettes' – one side of the cassette for Vic, the other for 64. Thus the same cassette satisfies both Vic and 64 users, with corresponding savings in cost", says Audiogenic magnanimously. Two cassettes have initially been launched: Cataclysm and Bonzo. We'll let you know what we think ...

700 extended: The latest from those clever people at JCL Software is a handy collection of utilities for the 700 (yes, the 700 is alive and well: and it is being shipped – we hear). The 700 WORKSHOP is a plug-in cartridge containing a whopping 120KB of goodies in ROM. The price is £120, for which you get some extensions to Basic; some toolkit functions for program development: aids for machine-code programming: and "the ability to run soft-loaded Basic of the user's design". Sounds good. JCL is on 0892 27454 ...

64 talks to CBM: Also from JCL is an IEEE 488 cartridge for the 64. Yet another gismo that lets the 64 use the Pet/700 line's disks, printers and other peripherals, Maybe, but this one isn't too expensive (£59) considering the extras you get with it. Like simple batch file operation, instant screen dumps (just press CTRL-P), 'autoboot' to load a program automatically ...

64 as Typewriter: This neat trick comes from the Newsletter of VIC-UPS, the eager and active club in Western Australia. It lets you use a 64 and a printer as a typewriter – and it works!

```
10 POKE 59468,12
20 OPEN 7,4,7: PRINT #7:
CLOSE 7
30 OPEN 4,4
40 INPUT AS
50 IF AS="XXX" THEN PRINT
#4: CLOSE 4: END
60 PRINT #4, AS
70 AS=" "
210 GOTO 170
```

To use it, LOAD the program and turn on the printer. Now RUN it: a question mark should appear. Simply type up to 76 characters on the screen. Press return – your line will be immediately printed. Another question mark appears, type another 76 characters. When you have finished type "XXX".

Warning: If you type more than 77 characters they will not be printed.

DETAILS

Level 9 Computing specialise in high, pure-text puzzle adventures with detailed scenery and a wealth of puzzles. All games have over 200 locations and a save game feature, and cost £9.90 inclusive.

MIDDLE EARTH ADVENTURES

- 1: COLOSSAL ADVENTURE.** A complete, full size version of the classic mainframe game "Adventure" with 70 bonus locations added.
- 2: ADVENTURE QUEST.** Centuries have passed since the time of Colossal Adventure and evil armies roam The Land. With cunning, you must overcome the many obstacles on the road to the Black Tower, source of their democratic power, and destroy it.
- 3: DUNGEON ADVENTURE.** The trilogy is completed by this massive adventure, set in the rich caves below the shattered Black Tower. A sense of humour is essential!

THE FIRST SILICON DREAM ADVENTURE

- 4: SNOWBALL.** The first of Pete Austin's second trilogy. The giant colony starship, Snowball 9, has been sabotaged and is heading for the sun in this giant game with 7000 locations.

THE LORDS OF TIME SAGA

Our congratulations to Sue Gazzard for her super design of this new time travel adventure through the ages of world history. Chill to the Ice-age, go romin' with Caesars legions, shed light on the Dark Ages. etc. etc.

LEVEL 9 ADVENTURES

BBC 32K COMMODORE 64 SPECTRUM 48K
LYNX 48K NASCOM 32K ORIC 48K ATARI 32K



Level 9 adventures are available at £9.90 from good computer shops, or mail order from us at no extra charge. Send order, or SAE for catalogue, to the address below – and please describe your micro.

LEVEL 9 COMPUTING

Dept CU, 229 Hughenden Road, High Wycombe, Bucks HP13 5PG

REVIEWS

"Adventures which have a fast response time, are spectacular in the amount of detail and number of locations, and are available to cassette owners ... Simply smashing!" – *SOFT*, Sept 83

"Colossal Adventure is simply superb ... For those who want to move onto another adventure of similar high quality, Dungeon Adventure is recommended. With more than 200 locations, 700 messages and 100 objects it will tease and delight!" – *Educational Computing*, Nov 83

Colossal Adventure is included in Practical Computing's top ten games choice for 1983: Poetic, moving and tough as hell." – *PC*, Dec 83

For once here's a program that lives up to its name ... a masterful feat. Thoroughly recommended" – *Computer Choice*, Dec 83

"To sum up, Adventure Quest is a wonderful program, fast exciting and challenging. If you like adventures then this one is for you" – *NILUG* # 1.3

"I found Dungeon exceedingly well planned and written, with a fast response. There are well over 200 locations and the descriptions are both lengthy and interesting." – *C&VG*, Sept 83

"The puzzles are logical and the program is enthralling. Snowball is well worth the money which, for a computer program, is a high recommendation." – *Micro Adventurer*, Dec 83

"Snowball... Here again, we have all the expertise we have come to expect from Level 9 Computing" – *PCW* 18th Jan 84

THREE EXCITING NEW GAMES IN THE LIVEWIRE SERIES FOR THE FROM **SUMLOCK** MICROWARE



GRIDTRAP 64

We promise you won't be able to turn it off! It's a real skill tester and loads of fun to play!

Play with the Keyboard or Joystick. Choose your own operating keys with our **User Definable System**. Compete with an opponent by selecting **Two Player Mode**...

Great graphics, super sound effects in the Livewire tradition including a selectable Melody Mode where the tune is available at the touch of a key and Melody On is indicated by a quaver graphic.

Program No. LWO4 £8.95

JUMPIN JACK 64



Not just a game... an Experience!
IT HAS IT ALL!... EXCITEMENT...
HUMOUR... STRATEGY

Jumpin' Jack leaps into a totally new look for the 64 created by **Three Dimensional Graphics** giving **Full Perspective** to the game... PLUS... hosts of features never seen before!

Submerging Turtles — Snakes — Crocodiles — Otters — Lady Frog — Dragonfly!!!

It's Fun ***

IT'S FROGRIFFIC ***

Program
No. LW02 £8.95

TRIAD 64

NEVER BEFORE HAS A
COMPUTER GAME LOOKED
SO EXCITING...

... FELT AND PLAYED SO
EXCITING...

Watch astonished as the Triad
hurl themselves towards your
craft in a remorseless battle
against your intrusion.

Feel the heat blast of their anti-
matter fields.

Your pulse laser will have to
turn white hot before this
encounter is over...

Featuring:-

A new DIMENSION...

Into the realm of TOTAL
PERSPECTIVE GRAPHICS...

Program No. LW03 £8.95



SUPERB SOFTWARE FOR THE VIC 20



SP.04 GRIDTRAP
Defuse the bombs,
watch out for the
mines and wandering
boot. Joystick or
Keyboard
M/code £7.95



SP.01 SKRAMBLE
Destroy the enemy
installations and
missiles in their under-
ground silo. Joystick
or keyboard
M/code £7.95



SP.02 JUMPIN JACK
Cross a busy road and
treacherous river to get
Jack home. Joystick or
keyboard. Multi-colour
Hi-Res Gr.
M/code £7.95



SP.03 TRIAD Defend
your base against the
suicide fleets of alien
hoverships. Joysticks
or keyboard.
M/code £7.95



SP.13 STARSHIP
ESCAPE A compelling
and exciting real time
graphics space adven-
ture game. Joystick or
keyboard
M/code £9.95



SP.16 MULTITRON
The biggest alien
encounter of all time.
Wave after wave of
invasion action.
Joystick or keyboard
M/code £7.95



SP.06 ASTRO
FIGHTERS
A space duel played by
two players at once.
Requires Joystick.
M/code £6.95



SP.07 CHOPPER Attack
and destroy the enemy
base but watch out for
guided missiles.
Joystick or keyboard.
M/code £6.95

SUMLOCK

MICROWARE

Trade enquiries welcome. Trade distribution nationwide ring 061-834 4233 for details.

Clip the coupon below and return to Sumlock Microware Dept. CU-S12
198 Deansgate, Manchester M3 3NE.
or Telephone: 061-834 4233



Please send me the following Software

I enclose Cheque/P.O. for £ _____ inc. P + P U.K. only.

To: Name _____

Address _____

Post Code _____

Also available from good computer dealers and bookshops nationwide.

DISK GAMES

FOR THE **commodore** 

If you've got a 1541, you don't want to spend ages waiting for cassette games to load. Freed from the restraints of loading times, Audiogenic Disk Games can give you typically around 30K of machine code! More code means better games, better graphics and sound, more variation, and those little extra touches that you will come to expect from a game. Here are our first great releases!

FORBIDDEN FOREST

Forbidden Forest is more of a quest than just a game! The action takes place in a four dimensional scrolling forest landscape which many have entered, but none has returned. Yes, I did say **FOUR** dimensional - day fades into night as the action unfolds! The quest is to seek out and destroy the Demogorgon, mystic ruler of the Forbidden Forest. Before you can even set eyes on him you will have to contend with his army of fearsome creatures, including mutant spiders, showers of giant frogs, snakes, dragons, skeleton soldiers and more! You have only your trusty bow and arrows to depend on!

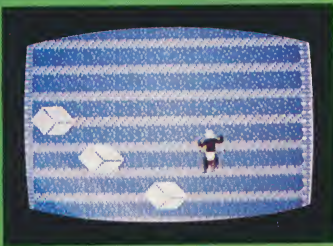


*

AZTEC CHALLENGE

A challenge on an epic scale! Aztec Challenge takes you on a journey to Mexico and the ancient pyramid of Tenochtitlan. The ancient Aztec gods and their devotees have ensured that no ordinary human can learn the secrets of the temple and live to tell the tale. The pyramid is protected by all

manner of treacherous traps and hidden perils - an epic test of your courage and cunning. Aztec Challenge features no less than seven totally different screens - here are just three of them - each of which presents a brand new challenge. We hope your joystick can stand up to it!



*

SLINKY

Slinky, the spring, was having fun hopping about when suddenly he came upon a pile of coloured blocks, so he thought he'd play around on them for a while. Much to his amazement he found that they changed colour when he landed on them. Wow! But unknown to him, the blocks belonged to the Wicked Wizard, who sent his friends along to tease our poor hero. Slinky is a real fun package with ninety-nine levels, amazing reward displays, and action replays. Where else could you meet such charming characters as Dusty the dust cloud, Marge the magnet, Ralph the random raindrop, and Lorenzo the chameleon hopper?



*

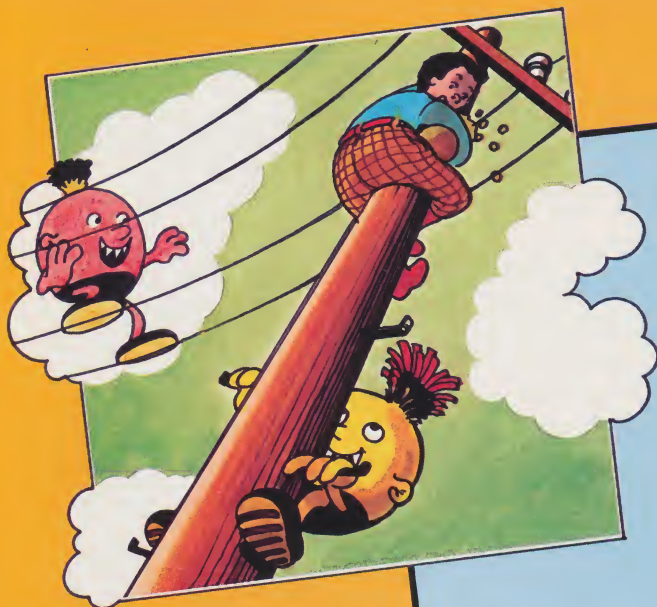
DISK GAMES £12.95

Audiogenic LTD

FOR FREE COLOUR CATALOGUE OF OUR

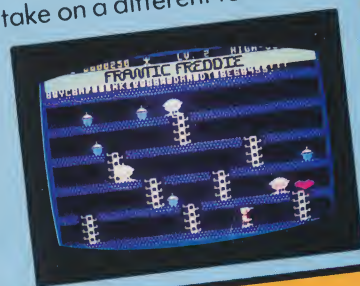
FROM

Audiogenic!



FRANTIC FREDDIE

Frantic Freddie is fun all the way! Played to an unbelievable soundtrack of brilliantly arranged tunes, Frantic Freddie contains all the ingredients that make a game into a classic! Freddie is a telephone line engineer who has to climb up and down the telegraph poles, picking up pots of gold and avoiding the dreaded Greeblies. The Greeblies take on a different form with every new screen, but one thing's for sure - they may look cute, but they show no mercy! Frantic Freddie also features wacky messages, funny interludes and silly bonuses. Frantic Freddie - a game with a sense of humour!



AUDIOGENIC PRODUCTS ARE AVAILABLE IN ALL MAJOR STORES OR BY MAIL ORDER DIRECT FROM US. (MAJOR CREDIT CARDS ACCEPTED)
PRICES INCLUDE V.A.T. AND POSTAGE AND PACKING

PEGASIS

Pegasus takes us back to the mythical age when the battle between Good and Evil was fought by heroes on winged steeds. As the champion of the forces of Good, you must topple the evil Black Warriors from their jet black flying horses by swooping down on them from above, then land and finish them off before they can remount. In order to keep airborne, you must keep your wings flapping with the



joystick Fire button, and control direction with the stick. The brilliant programming of Pegasus gives you stunning graphics, bonus creatures, great wing flapping sound effects, an incredible simulation of flying horse aerodynamics, plus - two players can play at the same time!



* THESE FUN-PACKED PROGRAMS ARE ALSO AVAILABLE ON CASSETTE - £8.95

OTHER PROGRAMS, CLIP AND RETURN COUPON

PLEASE SEND ME YOUR FULL COLOUR CATALOGUES
NAME
ADDRESS

AUDIOGENIC LTD
P.O. BOX 88
READING
BERKS.

TERMINAL SOFTWARE

from the producers of



STAR COMMANDO

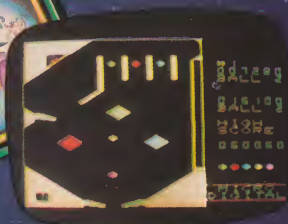
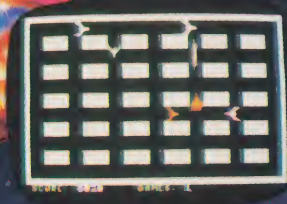
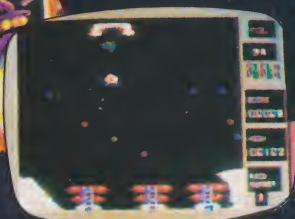
Earn your Star-badge by clearing the Galaxy of hostile forces like Cosmic Kamikazes, Galactic Pirates and hazards like Space Minefields and Meteor Storms.

Fantastic 3-D perspective on the Commodore 64 for £7.95

PLUMB CRAZY!

Stop the tank exploding by plumbing-in a relief pipe using your skill and ingenuity. Avoid the rocks and beware the ghost!

Fun-action game for Commodore 64 £7.95



TERMINAL

Available from leading computer shops and distributors, including:-

TERMINAL SOFTWARE
28 CHURCH LANE, PRESTWICH,
MANCHESTER M25 5AJ.
Telephone: 061-797 3635 or 061-773 9313

Dixons
SOFTWARE
EXPRESS

Selected Lewis's
and Co-op
Stores

PCS
BLACKBURN,

SX on Show

by Henry Deckhand



Eager train-loads of computing people (mostly computer journalists) breezed into Birmingham's National Exhibition Centre for the first (of many) all-star hi-tech spectacles of 1984 – The Which Computer Show. New machines, new peripherals, new software; but even in the supposedly fast-moving world of computing, the wheelers and dealers stay the same. They've done it all before, they'll do it all again ...

Not much there for us – except that Commodore grabbed a major share of Show real-estate and gave pride of place to the SX-64 portable, apparently confident (hopeful?) that the 64-based single-disk arm-stretching portable will carve a slice of the business market for itself.

With its £895 price-tag as well, it may need a little help. No problem; "free software worth over £210", enthuses its multicolour blurb. So what do you get?

Giving it all away

There's Old Faithful, the Easy Script word processing package (still going as a freebie with the 1541 disk drive, at least until next month). It's accompanied by Easy File and Future Finance, a financial planning package that's new to us. And just to make the point that the SX-64 can be used for fun too, there's High Flyer, "a challenging business simulation game", and a six-pack of games as well. We're currently reviewing the SX.

There's more freebies for other machines too; the 700 series is being bundled up in a selection of five 'Business Packs', ranging from £1,495 to £2,495 (depending on printer and disk drives). Buy any one and you get "£1,000 worth of free software". That amounts to three business packages: CalcResult, Superbase and Superscript II. They're all in the Approved Products Catalogue and sound like being good value.

Commodore also announced a communications modem for the SX-64 – but it wasn't on display, would you believe. It will "shortly be made available" says the blurb. When (and if) that happens, it will give access to

electronic mail, Telex and public/private databases like Prestel. Since the machine itself was so reluctant to appear in this country, you could be in for a long wait. No-one knew much about it, but presumably it'll be a low-cost cartridge.

New for old

The new MPS 801 dot matrix printer (also being reviewed by us) was on display, though. It's replacing the 1525 and, despite a better specification, costs the same (£230). It's print speed is slightly quicker at 50 characters per second compared with the 1525's 30cps. It will print double-width characters and has a facility for designing unique graphic symbols (it will produce all the Vic and 64's graphic characters too). Still no true descendents, though.

Commodore demonstrated its increasing commitment towards software by allowing seven Approved Products Suppliers to share its stand. Precision Software (who wrote Easy Script) demonstrated its new Super Office package, which integrates data management with word processing facilities – just like on a real computer. It's scheduled for release at the end of January – only for 700 and 8000 series at present: and no price yet, either. Looks good, though.

Kobra was there with its largest, glossiest and most prestigious acquisition – Microsoft's Multiplan spreadsheet package. The company has exclusive UK rights for the Commodore 64 version which it's selling for £99.95.

That is going to make the 64 an even more viable business machine – we'll be reviewing that one soon, too. A preliminary

glance, though, shows that the package and documentation set new standards in the 64 world. As you'd expect from Microsoft, which makes much of its money these days from packages for the IBM-PC – where presentation is almost more important than the function.

Kobra must be doing a great deal of gleeful handrubbing, having gained probably the leading spreadsheet package from one of the world's largest and most influential software houses. But Commodore may not be quite so pleased: in June of last year it was reported to be negotiating marketing rights with Microsoft for the same product, and that came to naught. Apparently Commodore's proposal for a version of Multiplan (lower than Kobra's present price, as it happens) and mass-marketing strategy didn't suit either Microsoft or its existing dealers. But, no doubt, Multiplan will soon be Commodore-Approved. Certainly should be.

Handic shouldn't be overjoyed either. The Swedish company is just opening its own UK office to sell the likes of its Multiplan competitor, CalcResult ... which it had to do because Kobra


relinquished its own deal on that and other Handic products late last year. Now we know why.

Overview

The Which Computer Show isn't intended for home computer enthusiasts, of course. But it's interesting to see where the computer business is going – spurred on by the home computer boom, and in particular the volume-retailing features that distance the manufacturer from the end consumer.

Commodore took a big stand presumably because it wants to revive its flagging position in the business systems market: but the Pet derivations looked technologically dowdy alongside the zillion 16-bit hi-res IBM-compatible micros.

The SX-64 might be what the company's putting its business-user hopes on; certainly the software on display seemed good, and the freebies in the SX-64 box are definitely targetted for business buyers.

Question of the month: will it work? Will the SX-64 sell in quantity? Is Commodore really serious about the business world? And should it be? 



blue chip computers

We pride ourselves on a fast delivery
& customer satisfaction

PLEASE NOTE ALL OUR PRICES INCLUDE
POSTAGE AND PACKING
(U.K. MAINLAND ONLY)

WESTERN EUROPE + 10%
ELSEWHERE + 15%

Software Bonanza

TEXAS TI 99/4A

SPEECH SYNTHESISER	34.95
EXTENDED BASIC	39.95
TERMINAL EMULATOR	39.95
SPEECH EDITOR	14.95
EDITOR ASSEMBLER	55.95
JOY STICKS	14.95
TI LOGO II	59.95

CASSETTE RECORDER

Guaranteed to load and save 25.95

ALIEN ADDITION	10.95
METEOR MULTIPLICATION	10.95
DEMOLITION DIVISION	10.95
ALIGATOR MIX	10.95
DRAGON MIX	10.95
TOUCH TYPING TUTOR	21.95
MINUS MISSION	10.95
NUMERATION 1	7.95
DIVISION	7.95
MULTIPLICATION	7.95
ADDITION SUBTRACTION 1	10.95
MUSIC MAKER	14.95
EARLY READING	10.95
BEGINNING GRAMMAR	10.95
EARLY LEARNING FUN	10.95
CHES	26.95
CHISOLM TRAIL	7.95
INVADERS	14.95
PARSEC (speech)	19.95
MUNCH MAN	19.95
ALPINER (speech)	10.95
CAR WARS	10.95
TOMBSTONE CITY	10.95
CONNECT 4	10.95
HUSTLE	10.95
ATTACK	10.95
5 A-SIDE SOCCER	10.95
HUNT WUMPUS	10.95
VIDEO GAMES 1	10.95

NEW THIS MONTH

OTHER ADVENT	5.95
CASSETTE GAMES	
MINER 99ER TI BASIC	5.95
MATRIX BLASTER TI BASIC	5.95
FROGGER TI BASIC	5.95
BOBOPDS TI BASIC	5.95
FUN PACK TI BASIC	5.95
HUNCHBACK HAVOC TI BASIC	5.95
BLACK TOWER TI BASIC	5.95
TROLL KING TI BASIC	5.95
DADDIES HOT ROD TI BASIC	5.95
FROGLET EXTENDED BASIC	9.95
TOAD GRAPHICS EX BASIC	8.95
ABM CONTROL EXTENDED BASIC	9.95

KONG EXTENDED BASIC	9.95
BOUNCER EXTENDED BASIC	9.95
DIABLO EXTENDED BASIC	9.95
PAKMAN	19.95
DONKEY KONG	24.95
DIG DUG	24.95
ROBOTRON	19.95
CENTPEDE	19.95
DEFENDER	19.95
STAR GATE	19.95
PROTECTOR 2	19.95
PICNIC PARANOYER	19.95

ATARI 400 600XL 800

ZAXXON	14.95
DIAMONDS	9.95
HYPERBLAST	9.95
BATTY BOULDERS	9.95
CAPTAIN STICKY'S GOLD	9.95
CAVE RUNNER	9.95
O'REILEY'S MINE	9.95
AIR STRIKE	9.95
FIRE FLEET	9.95
CRAZY COPTER	9.95
BOMBASTIC	9.95
JET BOOT JACK	9.95

VIC 20

RIVER RESCUE	19.95
MUTAN HERO	19.95
4th ENCOUNTER	19.95
SUB COMMANDER	28.95
MIND MADNESS	19.95
TANK COMMANDER	19.95
MINI KONG	6.95
MULTITRON	7.50
COMPUTER WARS	7.95
WACKY WAITERS	6.45
CATTERPILLA	6.45
CRAZY KONG	7.95
BRIDGE MAN	6.50
SKRAMBLE	7.50
FRANTIA	6.45
BEWITCHED	6.45
CATCHA SNATCHA	6.45
GRIDRUNNER	7.75
MATRIX	7.75
JET PAC	7.45
SPACE SWARM	6.45
FROGGER	6.95
PAKMAN	19.95
DONKEY KONG	24.95
DIG DUG	24.95
CENTPEDE	19.95
DEFENDER	19.95

COMMODORE 64

FALCON PATROL	7.95
SCRAMBLE	7.95
THE HOBBIT	14.95
HEXPART	7.95
MOON BUGGY	7.95
3D TIME TREK	7.95
SIMONS BASIC	47.95
HOVVER BOVVER	7.50
MATRIX	7.50
MUTANT CAMELS	7.50
GRIDRUNNER	7.50

**AUTHORISED
TEXAS INSTRUMENT
DEALER**

COMMODORE 64

HUNCHBACK	7.25
O'REILEY'S MINE	8.95
GALAXY	7.95
JUMPING JACK	8.95
QUASAR	7.95
BLUE MOON	8.50
SUPER PIPELINE	8.50
CRAZY CAVEMAN	7.50
SIREN CITY	7.95
TWIN KINGDOM VALLEY	9.95
ARCADIA	5.95
PAKMAN	19.95
DIG DUG	24.95
ROBOTRON	19.95
CENTPEDE	19.95
DEFENDER	19.95
STAR GATE	19.95

SPECTRUM

VOLCANIC PLANET	7.95
BLOCKADE RUNNER	7.95
RIVER RESCUE	7.95
GOLD RUSH	7.95
ROAD RACER	7.95
LUNAR JET MAN	5.95
ALCHEMIST	6.45
MANIC MINER	6.45
PINBALL WIZARD	7.95
ATTIC ATAC	5.95
ANT ATTACK	6.95

ATARI 400/800

SUB COMMANDER	31.95
JUMBO JET PILOT	31.95
FIGURE FUN	10.95
ORIC ATTACK	31.95
RIVER RESCUE	28.95
CARNIVAL MASSACRE	28.95
KILLER CLIMB	28.95
COMPUTER WAR	31.95

IF YOU REQUIRE SOFTWARE
OR HARDWARE NOT LISTED
NOW OR IN THE FUTURE RING
OUR HOT LINE (0942) 322543
FOR AN IMMEDIATE QUOTE
FOR ANY POPULAR HOME
MICRO.

TO: BLUE CHIP COMPUTERS, 16 Clapgate Ln, WIGAN

Please send me

.....

Name

Address

..... Tel

I enclose a cheque/p.o. to the value of £

SEND CHEQUE OR POSTAL ORDER NOW TO:

BLUE CHIP COMPUTERS, 16 Clapgate Lane, Goose Green,
Wigan WN3 6RN

STATING NAME, ADDRESS, TEL. No. & GOODS REQUIRED

OR PHONE TELE SALES ON WIGAN (0942) 495753

WITH YOUR ACCESS/BARCLAYCARD No.

*No Monies banked until goods are despatched

Fire, theft and coffee in the keyboard

Insuring your home computer

by Bohdan Buciak

If you're a responsible and judicious person, you've probably already insured your house and beloved chattels against the Great Perils – fire, flood, earthquake and other nasty occurrences. Since your computer has become as valuable a part of your home as the television or grandad's cigarette-card collection, that will require insuring too.

But how do you go about insuring your Vic or your 64? What levels of cover are readily available? And how much will you finish up paying? Bohdan Buciak has been wading through an assortment of general household policies and some specialised computer policies.

Since your computer probably spends most or all of its time in your home, it's prone to loss or damage in the same way as anything else in your household. So including it in a general household contents insurance policy sounds like a bright idea. In fact, the majority of home computers are covered in this way. But is that adequate?

Household contents policies

Most of the major insurance companies now mention the word 'computer' in the wording for their household policies – having recognised, at long last, that computers can no longer be ignored. But you've got to read carefully (not only the brochure but the policy itself) to see what is and isn't covered.

Let's start with the Home Plus policy from the Norwich Union, a popular home insurance policy and one of the easiest to understand in terms of its computer cover. In the section on principal risks (fire, flood, theft, storm etc. against which all your household contents are insured) there's automatic inclusion of accidental damage to your computer. That's pretty sensible because accidental damage is the most valuable cover you'll need – and it comes at no extra cost.

But there are a number of restrictions (which is reasonable because you're not paying very much). For example, you're only covered for accidental damage in your own home.

Electrical or mechanical damage isn't covered; neither is wear and tear, or damage caused by repair or incorrect electrical connection. On top of that, there's no cover for damage to software. You may want all that covered – but more about that later.

HomeCover from Cornhill

Insurance gives virtually identical cover. In both cases, you don't need to specify what computer and what peripherals you have. But if you acquire them after taking out the policy, do make sure that their value is added to the sum insured. Remember, you've signed a declaration saying that the sum insured is not less than the replacement value of your Contents. Adding a computer to an existing policy may increase your premium a little.

Cost of cover

Household insurance rates differ from area to area. Obvious inner-city areas entail the highest risks and consequently the highest rates. But an average rate would be £3.50 for every £1,000 insured. So adding a £500 computer system to a policy would increase your premium by about £2.

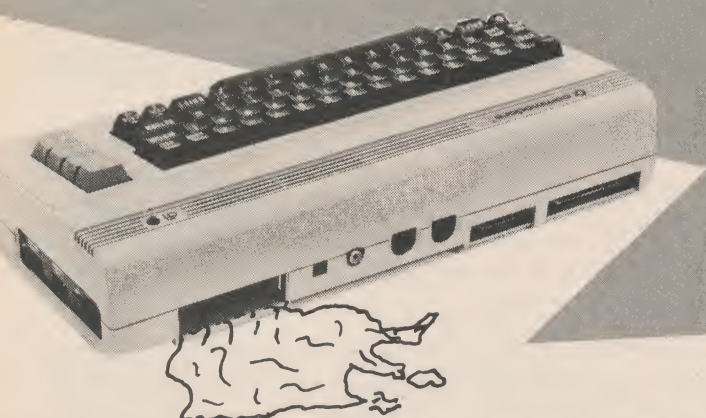
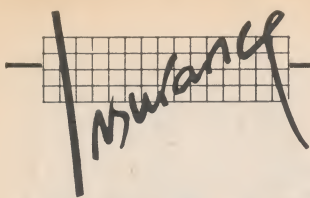
And with some policies, like the Hearth and Home policy from Prudential, you don't get automatic cover for accidental damage to the computer within the basic policy at all. The Pru does have an 'accidental damage' section and that's the way to cover your Vic or 64. But it also covers the Contents as a whole: that almost doubles the premium, though, and you may not want to pay to cover all your possessions in that way.

All risks

The Prudential gets around this problem by mentioning the computer in another section, 'All Risks', there it comes under the heading of home leisure equipment. The general idea of All Risks is that you insure only items that need special cover in this way. With the Prudential, you get cover for loss or damage from almost any cause – but it's still confined to the home.

COMPUTER APOCALYPSE





Needless to say, you can't get this cover unless you've also got the general contents cover with the Prudential.

The extra premium works out at around £1.50 for every £100 insured. But the minimum sum is £600, so you'll need a few peripherals or a more expensive machine to take advantage of such cover. There's also a £10 excess which means you pay the first £10 of any claim.

By the way, be careful about excesses – some can be as high as £25. That's about the average cost of computer repairs. So it may not be worth your while claiming.

With the Prudential, cover for All Risks is on a new-for-old basis if the computer is beyond repair. On the basic policy, it's optional. The Cornhill is equally flexible; it provides for claims settlement on an indemnity or a new-for-old basis. 'Indemnity' takes into account gradual deterioration and wear and tear. It's a bit cheaper; but you'll have to pay something towards a new computer or a little of the repair charge. Norwich Union, on the other hand, provides only a new-for-old policy. It will consider offering All Risks cover to home computers, but only by assessing each case individually.

That's really the extent of cover possible on a household policy. Certainly Cornhill won't extend accidental damage cover to transit or use outside the home. That applies to most other companies too. Generally, if you take your computer out of the house, it's only covered for those General Risks mentioned above. You're covered if the machine is stolen from your friend's house or, say, damaged by water from a burst pipe – but not if you drop it.

So far, we haven't mentioned software. This is a problem area for home insurers and they

prefer not to get involved with it. Once again, you're covered for general risks; but making a claim probably won't be worth while if the value of the software lost is smaller than the excess payment specified in the policy. And how do you assess the value of programs you've written yourself? Similarly, you won't be able to claim for accidental damage or erasure of your software.

If you're now grumbling that household policies can't provide the cover you need, there are alternatives: maybe a specialised (and more expensive) personal computer policy is the one for you.

But wait: have you got the Golden Key household policy from Commercial Union? There's nothing much to distinguish this from like policies ... except that it will insure you for repairs if your computer breaks down. The cost? For a £500 system, you'll pay £12.50 on top of your existing premium. The drawback is that you pay the first £25 of any claim.

Specialised policies

Apart from the basic cover provided, the major drawback of including a computer in your household policy is that you're stuck with the existing wording in the policy. You could always change your policy, but that sounds rather drastic. Many people don't have or need a household policy.

A specialised computer policy will probably give greater depth of cover – at a price. The Cornhill, for one, offers an easy-to-understand personal computer policy specially designed for home and educational use. It's split into two sections, hardware and software.

On the hardware side, you're covered for All Risks (including accidental loss and damage) to

the complete system – processor, printer, disk drive, even a display if it's used solely for the computer. Another useful feature is that breakdown is covered too – though you pay the first £25 of any claim. Similarly there's that nasty old £10 excess on a loss or damage claim.

But this policy does cover software; tapes and disks (including information stored on them) are insured for loss and damage arising from risks insured on the hardware section. Again, there's a £10 excess.

Finally, cover on both hardware and software applies not only to loss or damage occurring at the address the system is usually kept, but in transit too and indeed anywhere else (albeit temporarily) in the United Kingdom. So you could take your Vic on holiday to Bognor with impunity. It's covered for theft in both instances too.

That sounds comprehensive and reasonable. What will it cost you? If you've valued your complete system at £500, cover for All Risks and breakdown would cost you just over £20 per year. If you decide against insuring for breakdown, the premium drops to £7.50 (breakdown only insurance would cost £15.40).

Comparing the options

How does that compare with a similar personal computer insurance scheme from Graham Brown in Guildford? This policy also covers All Risks and breakdown, and is aimed at personal and educational use. It has no provision for covering software, though.

Primarily, hardware cover is the same at the home address. But the Graham Brown policy only covers the system outside the home if it's in an educational establishment or your office – loss or damage in transit to and from those places is also covered. But, unlike the Cornhill policy, theft whilst in transit is not covered.

Graham Brown's policy also stipulates that the computer must be no more than two years old when cover is taken. Cornhill doesn't specify any age.

For the same £500 system, Graham Brown quotes a premium of £15. That's cheaper, but you get less cover and you don't have the advantage of being able to claim for software. Both have a £10 excess tagged on to each claim.

Yer pays yer money ...

Finally, let's look at the Hi-Tech Supercover scheme from Entertainment and Leisure. This is a general electrical equipment insurance policy which works out pretty well for home computers. It's almost identical to Cornhill's, offering full cover for accidental loss or damage (including fire and theft) to the equipment whether it's kept at home or anywhere in the UK. Likewise, it includes theft in transit.

There's also similar cover for software, whose value you merely add to the sum insured. Unfortunately, accidental damage does not cover erasure of tapes or disks – no insurance policy of this level will give you that kind of cover. You'll have problems claiming for software you've written yourself, too. Commercial software is pretty simple to value but the insurance company would have to do some investigating if you claimed that the brilliant new version of Frogger you've written (you valued it at £1,000) had gone up in smoke.

Like the other specialised policies, the Hi-Tech policy gives you a number of cover options. The cheapest rate is for cover restricted to your home or office, an annual premium of £32 for that £500 system. Extending the cover to anywhere in the UK and theft from a car increases the premium to £43.

The Hi-Tech policy is certainly the priciest of the three but it has features which the other two don't mention. Like giving a no claims discount, free cover for up to 31 days in Western Europe (take your Vic to Benidorm?), and paying for the expense of hiring equipment as a result of an insured loss. You can also spread the cost by paying over three months.

The small print

The dubious nature of small print in insurance policies has reached legendary proportions. And it is true that merely browsing through a policy won't give you the full picture – there are always exceptions and conditions.

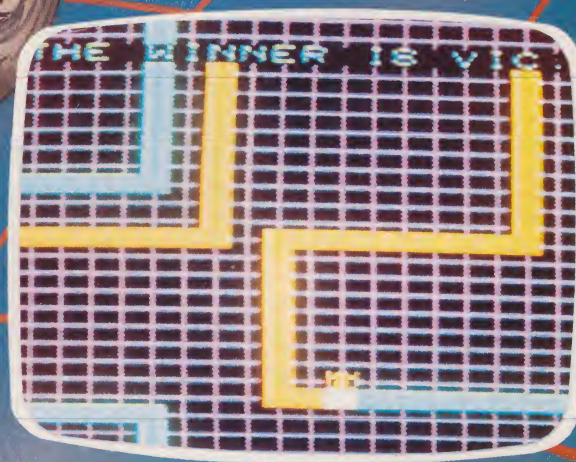
The most frequent one is the excess payment: you pay a fixed amount on each claim. Another example of the genre, in the Hi-Tech policy, is that theft from a vehicle is covered ... but not if it has a soft or removable top. That's made quite plain in the

VIC 20 OWNERS UNEXPANDED

TURBO GRID

CAN YOU HANDLE THE CHALLENGE?

Ride in a race of nerve and daring, push your turbo bike to its limits against your most cunning opponent – the computer. Beat its champion by leaving lethal tracks in your wake...speeding deftly around the screen leaves room for only one victor – don't let it be VIC!



MICRODEAL

41 Truro Road, St. Austell, Cornwall PL25 5JE. Tel: 0726 3456

On cassette £5.50 each



Selected titles available from larger branches of Boots, John Menzies, Spectrum, Computers for All and all good computer shops.

commodore Superbase

SuperBase, the complete information storage and control system, is ideal for any business, office or professional environment where records are kept... The very latest design techniques make SuperBase the last word in database technology, with all the power you need to control today's information, for tomorrow's needs! That's why SuperBase is...

The Ultimate CBM Database Manager

Key SuperBase features include fast key access, large record size, user-definable inputs, outputs, record formats... multiple screens, multiple selection criteria... word processor links, sorting, calendar, calculator... program or menu control, on-line or batch processing, transaction linking... and it's available NOW for Commodore models 700, 8096 and 64!

Superscript

A Commodore enthusiast wanted a word processor that was simple, fast, and easy to use. He wanted to handle up to 20,000 characters of text, to use a wide screen format of up to 240 characters, with full window scrolling in all directions, and be able to use the screen while printing. He wanted a word processor at a reasonable price. The enthusiast, Simon Trarmer, couldn't find one, so he wrote...

The Ultimate CBM Word Processor

SuperScript does everything he wanted... and much more. It provides a complete document preparation and storage system, making optimum use of memory and disk space. In short, it provides all the advantages of a dedicated professional word processor... And now SUPERScript II is available for Commodore models 700 and 8096, with a host of new features including arithmetic, selective sort, column move... and the 700 series version even includes a spelling-checker!

FASTEST SERVICE - LOWEST PRICES!

SUPERScript II (Commodore 700)	£450.00	£369.57
SUPERBASE (Commodore 700)	£450.00	£369.57
DTL COMPILER (Commodore 700)	£99.50	£94.78
MASTER 700 85 new commands (Commodore 700)		£295.00

COMMODORE 8096

SUPERScript II (CBM 8096)	£395.00	£326.09
SUPERBASE (CBM 8096)	£450.00	£369.57
MEMORY UPGRADE (converts 8032 to 8096)	£300.00	£250.00
PM96 Memory Management/Toolkit etc	£99.50	£86.91

COMMODORE 2000/8000

SUPERScript (CBM 2000/3000/4000/8000)	£249.00	£195.65
SUPERSPELL (CBM 2000/3000/4000/8000)	£150.00	£117.39
MASTER (CBM 4000/8000/8096)	£295.00	£195.65
VISICALC (CBM 2000/3000/4000/8000)	£175.00	£140.00
KRAM keyed disk access (CBM 3000/4000/8000)	£99.50	£86.91
DTL COMPILER (CBM 2000/3000/4000/8000)	£99.50	£94.78
COMMAND-0 39 toolkit commands (CBM 4000/8000)		£50.00

COMMODORE 64

SUPERBASE 64 database (disk)	£66.91	£76.52
VIZAWRITE 64 word-processor (disk)	£69.52	£59.13
VIZAWRITE 64 (cartridge) for tape or disk	£70.22	£65.22
VIZASPELL 64 disk dictionary/spelling checker	£52.13	£51.30
VIZAWRITE + VIZASPELL combined (disk)	£86.91	£73.91
MASTER 64 Basic IV + 85 new commands (disk)	£125.00	£100.00
DTL COMPILER 64 (disk)	£99.50	£94.78
DTL COMPILER 64 (tape)	£34.75	£32.13
TOOL 64 Toolkit/DOOS Support etc. (cartridge)	£43.43	£40.83
PRACTICALC 64 Spreadsheet (disk or tape)		£38.70

PRICES SHOWN EXCLUDE 15% VAT, AND ARE CORRECT ON GOING TO PRESS. ORDER BY POST OR TELEPHONE, USING CHEQUE, ACCESS, BARCLAY CARD OR OFFICIAL ORDER. DESPATCH IS BY RETURN 1ST CLASS POST, AND FREE EXCEPT FOR OVERSEAS AND CREDIT ORDERS. PRODUCT INFORMATION IS AVAILABLE ON REQUEST. [REF A26]

Calco Software

LAKESIDE HOUSE, KINGSTON HILL, SURREY KT2 7QT. TEL 01-546-7256

antler OF PALL MALL

HARD CARRYING CASE FOR VIC20 or 64 — this is the answer to making your computer easily and safely **PORTABLE**

This is a High Technology case from ANTLER with all the plus features:

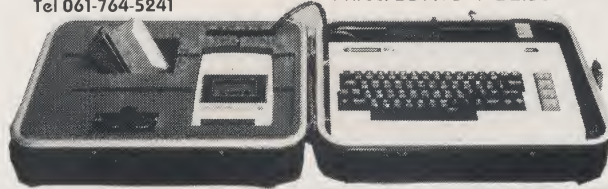
- ★ capacity for 6 tapes (2 different sizes)
- ★ firm housing and maximum protection for computer and tape machine
- ★ compartment for leads, plugs, transformer and modulator
- ★ the computer can be used in the case if required with access to all connections and controls

For information contact
Gordon Ashworth — Manager
ANTLER LTD
Specialist Cases Division
Alfred Street
BURY, Lancs BL9 9EF
Tel 061-764-5241

The case specification includes:

- ★ tongue and grooved frame closure in hardened aluminium for strength and protection from dust and moisture
- ★ rigid moulded shells in durable black grained a.b.s.
- ★ a cushion grip handle for carrying comfort
- ★ soft rubber non-scratch studs are fitted to the panels to provide a scuff free anti-slip location
- ★ the interior has an attractive hard wearing blue brush nylon surface to provide a quality finish

PRICE: £39.95 + £2.50 carriage



Breakdown! Insurance Scheme for Personal Computers

When your warranty has run out can you afford the repairs bills?

Our scheme covers breakdown repair costs plus accidental loss or damage for personal computers and all dedicated peripherals. All this equipment is insured in private houses, educational establishments, temporarily in offices. The computer must be less than two years old when it is first insured.

The annual premium if you live anywhere in the U.K.

Value of Equipment	Annual Premium
£100	£ 7.50
£200	£ 9.75
£300	£11.50
£400	£13.75
£500	£15.00
£750	£23.50
£1000	£32.50

Premiums on application for values over £1000

For full details and an application form complete the coupon and send to Graham Brown & Co. (Guildford) Ltd. For phone enquiries contact Mrs van Zyl.

Name
Address



Graham Brown & Co. (Guildford) Ltd.
Registered Insurance Brokers
Pannells Court, Guildford, Surrey GU14EY Tel. (0483) 65651



Mutancy

For the average home user, including a computer system within a household contents policy should provide adequate cover cheaply – the premium won't appreciably go up. But for people who use computers outside the home, whether at a club or educational establishment, the risks for loss

But the real crunch comes when a disaster has occurred and you wait for the insurance company to pay up. Here, reputation may account for more than policy wording. Large companies tend to pay more and pay quicker. And that's what you pay your premium for – getting your machine repaired or replaced as quickly and painlessly as possible.

Household insurance:

Cornhill 57 Ladymead Guildford, Surrey GU1 1DB	0483 68161
Norwich Union PO Box 6 Surrey Street Norwich NR1 3NS	0603 22200
Prudential 142 Holborn Bars London EC1N 2NH	01-405 9222
Legal and General Southgate House, 15 Cannon Hill London N14 7DA	01-882 6181
Commercial Union PO Box 93 100 Leadenhall St London EC3P 3HD	01-283 7500

Cornhill (as above)	0483 68161
Graham Brown & Co Pannells Court Guildford, Surrey GU1 4EY	0483 65651
Entertainment and Leisure PO Box 100 Great Ouseburn York YO5 9SZ	0901 30711

SOFTWARE

ON

Commodore 64

BC BASIC At last the ultimate has arrived!
— a complete 9K Basic extension
for the Commodore 64, supplied
in ROM. It features 86 new commands and
7 enhanced ones, with full high-res, sprite,
sound, and user
defined graphics **£57.50** inc. VAT

Send for full brochure.

Kuma Computers Ltd

See us on PRESTEL * 2473222 #

COMET: KUMA TELECOM GOLD: KUM 001

Telex 849462 TELFAC KUMA

Unit 12, Horseshoe Park, Horseshoe Road, Pangbourne, Berks RG8 7JW

 **PHONE NOW (073 57) 4335**
or **SEND FOR DETAILS** 

Please tick box ☒ for information required, and send coupon to:

Kuma Computers Ltd
12, Horseshoe Park
Horseshoe Road Pangbourne
Berks RG8 7JW

COMMODORE 64	Hardware
Software	
<input type="checkbox"/> BC BASIC	<input type="checkbox"/>
<input type="checkbox"/> DATABASE	<input type="checkbox"/>
<input type="checkbox"/> SIMPLE ACCOUNTS	<input type="checkbox"/>
<input type="checkbox"/> PAINTPIC	<input type="checkbox"/>
<input type="checkbox"/> FOOTBALL FORECAST	<input type="checkbox"/>
<input type="checkbox"/> HORSE RACE FORECAST	<input type="checkbox"/>

Hardware	Software
<input type="checkbox"/> SHARP PC-5000	<input type="checkbox"/>
<input type="checkbox"/> SIRIUS	<input type="checkbox"/>
<input type="checkbox"/> SHARP PC 1500	<input type="checkbox"/>
<input type="checkbox"/> SHARP 700	<input type="checkbox"/>
<input type="checkbox"/> SHARP A	<input type="checkbox"/>
<input type="checkbox"/> SHARP 3541	<input type="checkbox"/>
<input type="checkbox"/> SAGE	<input type="checkbox"/>
<input type="checkbox"/> APRICOT	<input type="checkbox"/>
<input type="checkbox"/> EPSON HX-20	<input type="checkbox"/>
<input type="checkbox"/> EPSON QX-10	<input type="checkbox"/>
<input type="checkbox"/> NEWBRAIN	<input type="checkbox"/>
<input type="checkbox"/> SPECTRUM	<input type="checkbox"/>
<input type="checkbox"/> ELECTRONIC MAIL	<input type="checkbox"/>
<input type="checkbox"/> PRINTERS	<input type="checkbox"/>

NAME _____

ADDRESS _____

POST CODE _____

If you own a Commodore 64^{T.M.} be sure that you also get a Calc Result

Calc Result is the worlds most effective spread sheet for the Commodore 64.

Calc Result at home

There are many practical uses, for example loans and mortgages, family budgeting, cash flow, stock portfolio, income tax analysis, gas and electricity bills, and many more areas.

In business

Use it for budgets, calculation, simulation, construction, planning etc. Used by managers, salesmen, scientists, doctors, lawyers, dentists, consultants, accountants. . . .

Three-dimensional

Sum pages to get a grand total.

SUM PAGE					
Period	1	2	3	Year	
Sales	450	420	480	1350	
Cars	750	780	720	2250	
Trucks	1650	530	1110	3290	
Trolle					
TOTAL	2250	2130	2310	6690	
Expense					
Salari	270	285	330	885	
Soc fe	180	175	175	530	
Kent	110	110	110	330	
Admini	230	230	230	690	
Market	190	190	190	570	
Transp	190	190	190	570	
TOTAL	935	981	1088	3004	

Help functions

Press a button and you get help on the screen.

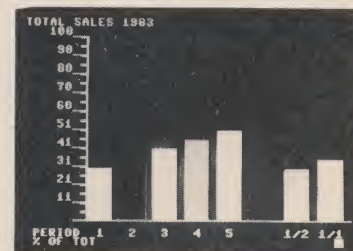
```

B: Blank.....Cancel contents of
D: Disk command... cell under cursor
E: Edit command... For disk communica-
F: Format command... tion or user register
G: Global command... For screen
H: Help command... and printer
I: Individual cell
J: Join command... Global format and
K: Kill command... column width
L: Leave..... title, split-screen
M: Move command... and window
N: New command...
O: Order.....
P: Page command...
Q: Quit command...
R: Recalculate... automatic or manual
S: Split command... Recalculate
T: Title command... automatic repetition
U: Under command... of characters at
V: View command... cell under cursor

```

Built in graphics

All figures can be presented graphic-ally with multi-coloured bars. Bar-charts can be presented on the screen or on a printer.



There are two versions of Calc Result

Choose the one that is most suitable for you.

£49.95
(INC VAT)

Calc Result Easy

Single page spreadsheet (64 columns X 254 rows). built in graphics. Formula protection, flexible printout, colour conditional functions and mathematical functions. Delivered on plug-in cartridge. Data storage on cassette or disk.

£99.00
(INC VAT)

Calc Result Advanced

All functions in Calc Result Easy plus 32 pages (Three-dimensional viewing). Page add, window, split screen (up to four pages on the screen at the same time), and help functions. Delivered on plug-in cartridge plus disk. Requires disk drive.

Get your Calc Result today! Buy it at your nearest computer dealer.

Commodore 64 is a trademark of Commodore Business Machines.

handic
Software Ltd.

Index House, Ascot,
Berkshire SL5 7EU.
Tel: 0990 23377.
Telex: 849426.

Shedding some light (on the matter)

Three lightpens reviewed by Bohdan Buciak

The lightpen is yet another peripheral home computer buffs are being invited to add to their 'wanted' list. The device detects a point of light on a screen and either changes the display or inputs information from it to the computer. But it's becoming popular in the home – not just for drawing and game-playing, but for programmers to extend the range of their work.

The DAMS Pixstik

We'll start with the Dams lightpen (or the Pixstik, from Dams subsidiary Computapix), with its drawing cartridge. The latest version is claimed to be "Greatly improved" – a preliminary pinch of salt there, but it turned out to be quite true. It comes in two versions; for the Vic and the 64. Both come with a plug-in cartridge, a weighty sheet of instructions and an even weightier £25 price-tag. So let's plug one in.

We acquired the 64 version – which is simplicity itself to use. The program loads immediately, as you'd expect from a cartridge, and you're ready to draw as soon as you've plugged the pen into the first games port.

One small gripe here; Dams might have used more flexible cable. The pen's plug is pretty large and it doesn't fit the port very securely. Pulling on the cable only adds to the problem.

Quick draw

The drawing functions and choice of 16 colour blocks are displayed permanently on the screen, as well as x (horizontal) and y (vertical) coordinates. This is sensible as it lets you select drawing and colour options quickly and easily.

That's done by pointing the pen to the appropriate spot and hitting a shift key. You're helped by a target-like spot which indicates the pen's position

anywhere on the working area of the screen. The coordinate display is also a sensible feature – but more about that later.

Apart from selecting drawing colours, you can change the colour of both the screen and the border. The manual recommends a light colour for the screen as this increases the pen's performance. You're given a choice of three 'pens', which overcome the problem of colours merging when they overlap. You choose a different pen to draw inside an area already filled with colour.

Shaping up

You're given a reasonable variety of standard drawing functions: line, triangle, rectangle, circle and ellipse. All shapes are quick and easy to draw. To draw a circle, for example, you need plot only the centre and a point on the circumference. Shapes can be either filled with colour or left as line drawings. Lines can be thin or drawn with larger blocks. There's also a 'paint' mode which you use freehand to get a speckled effect.

But the freehand mode proper is of next to no real use because the pen won't remain steady for long enough to give you a reasonable degree of accuracy. That's why you're given the choice of shapes; they're produced mainly through software rather than manual control. Without them, you'd soon get bored and frustrated. But even they can't be produced with pinpoint accuracy.

Time for a few home truths. Firstly, a really stable lightpen hasn't yet been produced for home computers. It's not all the manufacturers' fault; there are technological and computer limitations too. On top of that, the television set may not produce a bright enough image for the pen to read; dark colours don't emit enough light. Then there's static which builds up dust on both the screen and pen tip, making the pen difficult to control.

Dams has properly realised these limitations. So it has added a couple of features that compensate for the pen's lack of real drawing ability. They're called Bounce and Animate; and



both of them use the pen's rather clever memory ability.

Dams has provided four memories for the pen. By going into Command mode (f7), you can store and recall four separate drawings. When you've secured the first picture in memory, you can use the Clear function to clear the screen and produce another picture.

When you've got a maximum of four pictures stored, you can use either Bounce or Animate to display them in sequence at half second intervals. Animate will display the four 'screens' in a 0-1-2-3 sequence, whilst Bounce works in the same way but bi-directionally. If you've coordinated your four pictures, the effects can be quite stunning. The manual very usefully gives you a blow-by-blow example to give you the general idea.

This is where the x/y coordinate display becomes useful as it helps you calculate positions more accurately. But, as you'll know by now, it's virtually impossible to make the pen stay on a particular set of coordinates.

You can even save your creation on tape or disk for future display. But be warned; we

used disk and found the Commodore drive took a long time to load and save. Obviously that depends on the complexity of your drawing but it does mean that using tape would be too slow and tedious.

Summing up Dams

The Dams Pixstik is easy for non-computer folk to use and its manual is good. But it will frustrate the more creative amongst you because it jitters and shakes so much. Of course, you may want to use the pen in other ways (£25 is a great deal to pay for a mere drawing pen).

Dams has realised that, and has begun producing games cassettes for the pen. Three are already available for the Vic and 64, *Flack*, *Tic Tac Tow* and *Melody*. You could buy them separately at £5 each: or you can take advantage of a package that gives you the lot (pen, drawing cartridge, three games) for £29.95 (we can't say anything about the games until we get them for review). Make your own mind up about the price.

Under review:	Dams lightpen (for Vic and 64)
Supplier:	Dams Office Equipment Kirkby Industrial Estate Liverpool 33 7UA 051-548 7111
Summary:	Good drawing facilities, but limited scope for freehand work. Good manual. Only small range of games available.
Price:	£25 (games cassettes £5 each)

The Stack lightpen

Let's move on to the Stack lightpen, which already has ten games available for it – but no painting software (Stack tells us that's coming in January). The pen isn't cheap either; it also costs £25. So what do you get for the money?

Again, we acquired the 64 version – which comes with an eight-page manual and a free game on cassette. The manual is fairly basic but useful: it gives a concise description of how a lightpen works, followed by two short programs for setting up the working area of the screen and displaying the x/y coordinates.

If you've grasped all that (it's all a little unnerving for a complete beginner) you then confront the touch control on the pen, followed by a program that lets you put a coloured square at will on the screen. That's as far as the manual takes you – not very far. The rest is uncharted waters.

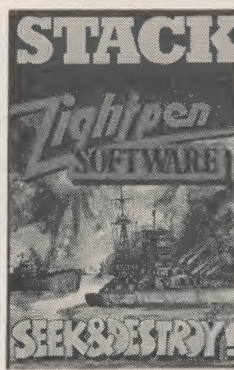
One useful point about the manual is that it shows you how to calibrate your pen for a particular television; that should steady the jitters a little. The idea behind this was to allow you to alter x and y values in the program listing of Stack's games to improve the pen's performance. That would have proved a tricky task for many people. So Stack has wisely built an automatic pen calibration feature into all the lightpen games. You can point the pen to the calibration spot on the screen until the thank-you message appears.

Despite this facility, Stack's pen was probably as jittery as the one from Dams. It was slightly easier to handle though; instead of pressing the shift key, contact is made on the pen itself – by two touch-sensitive metal rings.

Drawing the line

According to Stack most people don't want to use lightpens for drawing. It's backing up that perspicuity with lots of games tapes. Another reason is that

Under review:	Stack lightpen (for Vic and 64)
Supplier:	Stack Computer Services 290-298 Bootle Road Bootle, Merseyside L20 8LN 051-933 5511
Summary:	Wide range of games. Only few games use lightpen's features to the full. 'Paintbox' software available soon. Basic but concise manual.
Price:	£25 (games cassettes £5 each)



Stack has apparently realised present lightpen technology won't let you draw very well anyway – and that seems to us like sound thinking.

With its emphasis on game-playing, you'd expect some pretty good examples for the lightpen. But the free game included in the package, *Concentration*, probably won't make you feel your money's been well spent. It's the well-known turn-cards-over-re-

member-them-make-them-pairs game. And a pack of real cards comes a little cheaper.

The same goes for a few more of the games Stack's made available (they cost £5 each): games like *Othello*, *Draughts* and *Seek and Destroy*. They're all well-known and probably easier, more enjoyable and much less expensive to play with pen, paper and plastic. Admittedly, Stack offers some good visual and sound effects; but it does

make you wonder why they bothered.

More fun and games

A few games, like *Simon*, are more impressive and actually make good use of the lightpen as a pointing device (when it decides to behave). *Lost in the Labyrinth* also uses the pen in this way. It's an eccentric game though, and probably not to everyone's taste – though it certainly has more lasting value than some of the offerings already mentioned.

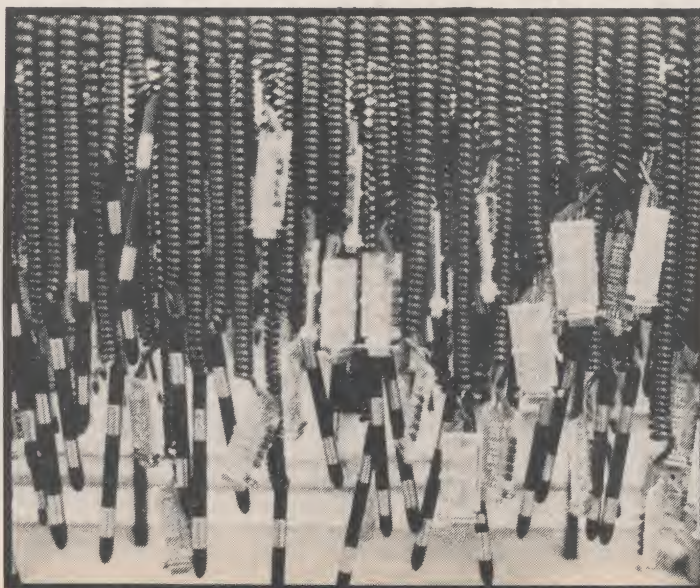
Another good and more intelligent game is *Crossword Twister*. This again uses the lightpen to the full and displays some brilliant effects, like letters drifting down the screen into the square you've chosen on the crossword.

Leaving content aside, Stack must be congratulated on its overall games presentation. There's ample on-screen instructions and all the games play marvellous music.

On some, that's the best feature. *Seek and Destroy*, for example, gives you a Baroque-ish rendering of the *Dambusters* theme – very appropriate, very odd.

Stack says it is continually developing games for the lightpen – which is encouraging if you've bought one and wondered whether it was all worth it. The earliest games, though, are frankly boring on average, and they don't really justify a lightpen at all. More recent offerings are much better and, hopefully, will continue to improve.

But if you don't like playing games or drawing you could certainly incorporate the Stack pen into programming. Despite the lack of in-depth explanation in the manual, an experienced programmer should have no real trouble.



The Datapen

But maybe you don't like drawing or game-playing? Maybe you want a down-to-earth pen that should be cheaper because it doesn't incorporate unwanted facilities. That sounds very logical, but wrong – at present.

The new Datapen won't let you draw marvellous pictures instantly or play games. Of course, it wasn't designed to do those things. But it still costs £25. Ah, perhaps it's more stable than the rest? Wrong again.

But that needs qualifying, so read on. Datapen sent us both Vic and 64 versions of its pen; and very stylish it is too. It looks rather like a surgical implement – the others just look like pens.

We tried the Vic's pen, which comes with a tiny introductory manual and a cassette tape full of introductory programs. The pen has a built-in switch and a LED lamp which lights up when the pen's pointing at the screen. (What value that has escaped us.)

The manual doesn't tell you a great deal, and what it does say is repeated for other home computers. So there's not as much information as you thought. Was it too much trouble to produce a dedicated manual?

It does cover the basics, though: a little program that demonstrates the switch, another one that reads x/y coordinates, a tiny section on stability of position and higher resolution. Those last bits will probable baffle most people and the rest isn't particularly useful by itself. For £25, you'd expect a great deal more in the way of explanation.



Simple symbols

But the pen can be useful for the less experienced via the accompanying tape. The first program, *Symbol Draw*, lets you use all the symbols and characters the Vic can produce. But at best, you can draw only pretty patterns.

The next program, *Medium Resolution Draw*, supposedly lets you draw freehand in blocks a quarter the size of a low-res graphics block. But it doesn't work very well at all.

The erase facility works just as badly. You draw the same block with Erase mode on – which sounds simple, but the block won't disappear unless you're exactly on target. Since the pen leaves no image on the screen, there's no way of telling exactly where you are – most frustrating. One function that does work well is saving and loading from tape, if that's any consolation ... and it probably won't be.

Generally, the Datapen was

just as unstable as the other pens. To improve stability Datapen supplies a tiny rubber ring that can be inserted into the tip of the pen. But that cuts down the amount of light entering it; so you need to turn the TV's brightness up – very unpleasant for the eyes.

The 64's version

In fact, the pen labelled for the 64 seemed to work better than the Vic's pen – they look identical anyway. Datapen's Commodore 64 version is a slight improvement (perhaps dear old Vic doesn't get along with lightpens). At the time of writing, the supplier hadn't yet got down to producing the equivalent of the Vic version's introductory programs: but it did come with what amounts to a manual on tape. That's a nice idea and it works pretty well.

The on-screen information itself helps you get to grips with reading x/y coordinates

and using the Datapen's switch. When you've mastered that, you're given a little demonstration of sprite movement and an indication of which part of the program it's located. So you can list the whole program and work out exactly what's going on.

But that's as far as it goes. You're directed to the 64's manual for more info on sprites in particular. Again, for the price, you'd expect Datapen to provide much more in the way of sound practical guidance.

Conclusions

To sum up, if you're buying a pen for programming purposes you're going to be left pretty much to your own devices (as it were). Neither the Stack or the Datapen will give more than basic help – but perhaps that's all you need?

For the drawing enthusiast, the Dams pen provides scope (albeit limited) for creativity.

Games players? Well, Stack's offerings started out on a low key but they're getting better and should improve in future.

Lightpens are still rather expensive and still don't really merit the price tag. Manufacturers make pronouncements about continued improvements, more advanced technology etc. but lightpens are still limited by their frustrating and sporadic 'shakes'. As data input or pointing devices, they work very well. But for more sophisticated applications, they're all still rather limited.

Under review:	Datapen (for Vic and 64)
Supplier:	Datapen Microtechnology 39 Kingsclere Road Overton, Hants RG25 3JB 0256 770488
Summary:	Vic version has limited drawing ability. Freehand mode virtually useless. Manual sparse and unhelpful. No games cartridges available. Slightly improved 64 version.
Price:	£25

Still to be reviewed: lightpens from Alphatronic and Stonechip.

22

The Fretful Pet

One man's journey towards computing

by Bohdan Buciak

Fred Reid used to put up with doing menial jobs like labouring, working in warehouses, on the factory-floor. But he's put all that behind him, and that's probably not as easy as it sounds. Now, he's made the break; he's working for himself, making and repairing guitars. He could call himself a craftsman – but he's too unassuming for that.

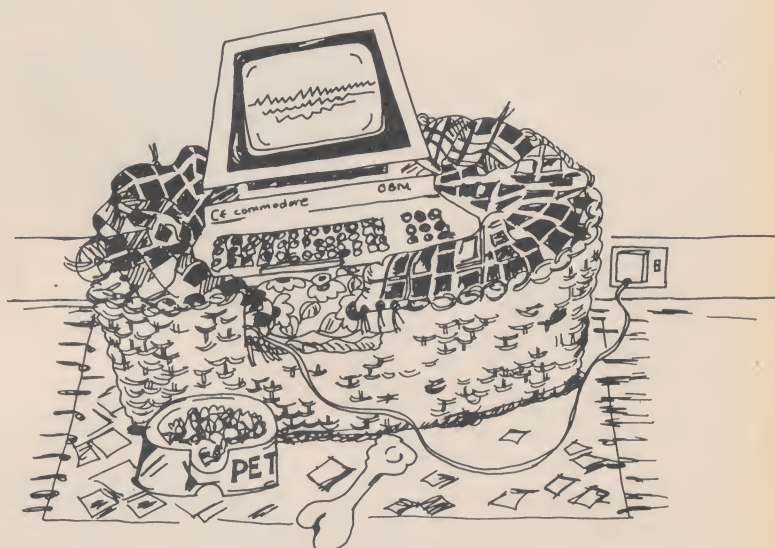
Fred's other joy along with doing things with guitars is playing around with computers. So it's not surprising that he should try and put an ageing Commodore Pet 3006 to good use in the fledgling and rather precarious one-man business he's running.

Playing with guitars

"Ever since I was sixteen I'd wanted to be independent of others but I've still got a long history of doing boring jobs for other people" – jobs like lumping

gear around for a small-time rock band.

Still, working for the band inspires the youthful Fred Reid to buy a cheap guitar and become one of the millions of amateur strummers trying to play Stairway to Heaven.



Cutting a short story even shorter – Fred isn't satisfied with his cheap guitar; he fiddles around with it and tries to improve the way it plays. And he starts repairing other people's guitars, acoustics and electrics, with the smattering of experience he's gained.

"I had a few basic tools and a little knowledge of electronics because that was my hobby. So I also started building and selling pre-amps for synthesizers to West End shops, touting them around and trying to get repair work." Pretty soul-destroying stuff for the youthful Fred, but he has a part-time labouring job as well to keep the rent-man from the door.

It might be persistence or being in the right place at the right time, or a combination of both, that gets Fred this Lucky Break. "I was doing one of my weekly trips down the Charing Cross Road; pretty fruitless because I didn't have much experience to talk of." But he still gets a job offer from one of the musical instrument shops (with Repairs in the basement). "They were impressed with my organisation – I'd brought a tool kit with me. So I got the job, like an apprenticeship really."

Not quite rags to riches yet, though. "Six months later we parted company. Nothing nasty,

just seeing too much of each other. But I'd picked up enough skills, and doing the job filled up a lot of gaps in my knowledge."

Going it alone

Armed now with more and better skills, Fred tries to go out on his own. "I spent two years trying to amass enough wealth to buy the necessary tools and equipment." He works from home in his council flat; but you can't run a business (officially, anyway) on council property. He's not getting enough customers to make it all worthwhile either. So clouds darken his vision of independence...

"I had a lot of bad luck trying to find premises; it was either too expensive or I got there too late." But eventually a shiny if not exactly silver-lined cloud drifts along. "Finding the place I'm in now was a stroke of luck; it's cheap and there's a few other musical instrument repairers around, like a community really – it's very pleasant here."

"Here" is a converted Victorian hospital on the edge of London's decaying East End (or on the edge of London's exciting high-powered City area, depending on which page your A-Z falls open at) where the moans and groans of past patients are being

replaced by more tuneful sounds and a lot of small businesses. (We're in here too.)

Getting a Pet

With his new home comes a less than new computer, a Pet 3000. "A customer brought it in wanting me to write a program to run a polyphonic synthesiser. The arrangement was that I do the work and keep the Pet as part-payment". A daunting task, surely, for someone who'd never used a computer before? "It looked like a nice challenge for me, but it's taking a long time."

Like the bloke in the Talents parable, Fred starts thinking up useful things to do with the machine. Does he play games on it or does he put it to good use? He comes up with an idea (secondhand because another guitar-maker thought of it first) to write a program that calculates the distance between a guitar's frets. But would that really be useful, or was it just another challenge?

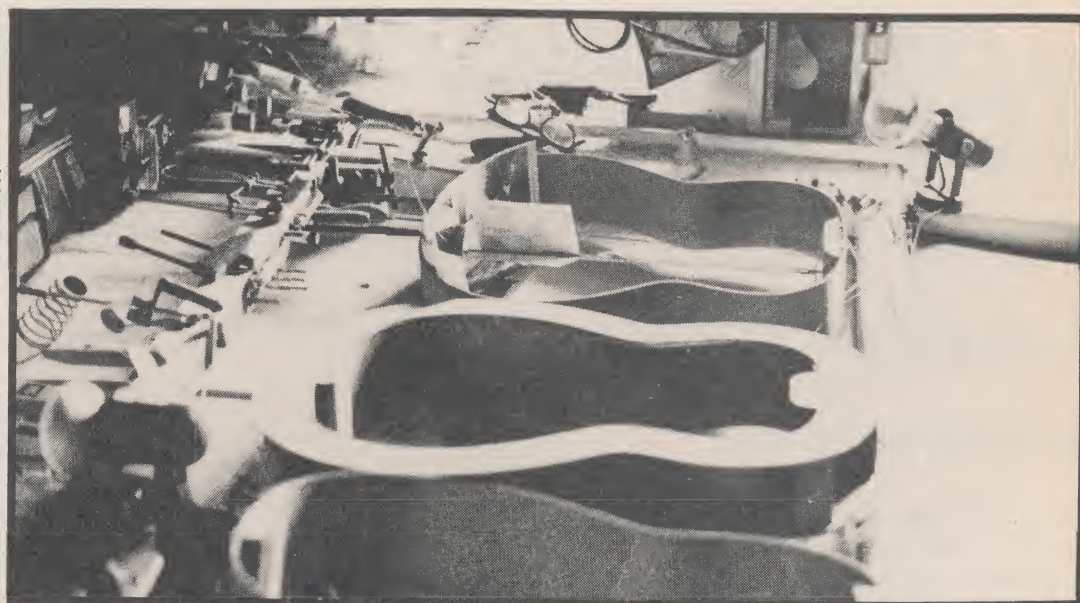
"My problem's always been that I do my calculations (there's a standard formula) on paper which gets lost and destroyed. The job usually takes about half an hour and involves a little bit of guesswork. You only find out whether you've got it right when the whole guitar's finished. It's too late if the thing won't tune – and you've lost credibility with the customer." Pretty disconcerting for a budding rock-star with his sights glued on platinum discs and NME with a bullet.

Fred spends a lot of time in his murky workshop just defining the problem in a way that could be handled by a computer. He's got a friend who works with computers to help him out. So eventually he emerges with a simple program; you key in the scale-length (distance from bridge to neck) and the number of frets you want. Press a button; and hey presto, the figures come up, accurate to eight decimal places.

That's got to be accurate enough? Well, not for Fred.

Fretful problems

"The trouble was that it calculated the theoretical lengths. You increase the pitch of a string when you press it down, so the height of the string above the fret becomes important too, and the



size of your finger. There are also slight differences between electric and acoustic guitars – with electrics you can sometimes vary the scale-length by adjusting the bridge horizontally."

Faced with these mammoth problems, Fred starts putting more variables into the program. Like the size of an average finger, the optimum action height for both acoustics and electrics, the gauge of the string to be used, the tension (a factor of 1 to 5) on the neck. It's not really an obsessive quest for perfection though, more of an insurance policy against wasted time, money and reputation.

By Christmas 1983 Fred has made four guitars using the program; the first attempt didn't quite work out but that was before he'd thrown in those new variables. Is he now satisfied with the revised version? "The program works very well now and it's just about as accurate as I'd possibly want.

"But I still haven't come up with a reliable formula for classical guitars. There's such a lot of different string weights and tensions that you've got to rely a lot on intuition." And that's probably how it's going to stay.

Financial grappling

Being the resourceful person he is, Fred won't let the matter rest with computerised fret calculating. He has surprised himself with his ability to produce a program that works, and one that also looks to be pretty useful.

With his new-found confidence he prepares to grapple with his

finances – what there are of them.

"I decided to produce a list of all my customers – names, addresses, phone numbers, details of instruments. All the information I usually lose when it's written on scraps of paper." He goes about doing this in the same pedestrian way; starting with somebody else's program, a simple records file, and then pulling it to bits to see how it works and how to expand on it.

"It took me quite a while to work out how to present the information." Now that he's done it, he goes on to scale even greater heights: to produce an accounting package, specially designed of course, for his particular needs.

"I've worked out a program that tells me in what state my monthly finances are; who's paid me, who hasn't, what I'm still owed and, hopefully, when I'm going to get the money." He regards this last point as a life-line; getting paid is often complicated by people making a down payment (what he calls "putting money up front") with the rest due on completion of the work.

And he goes from programming strength to strength; he works out a basic stock-control system and a package that lets him keep track of his bank balance and even draws nice little graphs – could be on the very edge of financial forecasting? Fred reckons it should impress his bank manager, anyway.

In developing all these programs, he's probably gone through the same learning curve and development stages as the professional programmers. Trouble is, he could have bought the software and a Vic or Commodore 64 to run it – but he didn't have the money.

Disadvantages

That's where the disadvantages start creeping in. Fred uses the standard Commodore cassette machine for storing programs so he wastes a great deal of time just loading files. As yet, a disk drive is an unaffordable luxury, but he knows he'll need one to integrate the financial programs he's already got.

He wants a printer too; not only to get hard copies of his finances to show to the bank manager (at the moment he just takes 35mm photographs of the screen!) but also to print out his graphs – perhaps a little word processing. He's already thinking of devising a logo to impress customers.

Then there's the inherent deficiencies of the Pet, its limited memory, its tiny 40-column screen. Fred's pretty pragmatic about such things – he'll carry on using it in the absence of anything better because it's there, and he's grateful just for that.

Fred is really pleased (not self-congratulatory) about the system he's developed – and rightly so. "If I hadn't taken this step towards computerisation, my business would be in a real mess right now. I'm planning ahead more and keeping in touch with the state of the business. It's a matter of confidence really – confidence that things aren't as bad as they seem."

But he's also managed to combine business with pleasure. Not just the pleasure of doing what he enjoys with no Boss breathing down his neck, but the satisfaction of being in the know about computers. "It's giving me a lot of fun and it's an exercise for the brain" – not that his brain needs organising, it looks in pretty good shape.

All prices include VAT, with FREE delivery in the UK

COMMODORE 64's & PRINTERS

I CHALLENGE YOU TO FIND A BETTER DEAL!!



CRESTMATT SUPER PACK

£229.95

includes:

Commodore 64 + Super/Saver
Cassette + 3 tape games up to £25

CRESTMATT PROFESSIONAL PACK

£599.00

includes:

Commodore 64 + 1541 Disk Drive + Seikosha Printer
GP100 with Single Sheet Feed Attachment + Easyscript
Word Processor + 6 games on Disk + 1000 sheets of
Paper + 20 Blank Disks

HARDWARE

Commodore 64 179.95
Disk Drive 1541 + Easyscript + 6 games on Disk + 5
FREE blank disks 199.95
1701 Monitor (High Resolution, Colour + Sound) 199.95

DOT MATRIX PRINTERS

Epson FX80 385.00
RX80FT 269.00
Shinwa CP80 249.00
Inforunner Riteman 279.00

DAISY WHEEL PRINTERS

Brother HR15 399.00
Juki 6100 379.00
Daisy Step 2000 329.00
Smith Corona TPI 339.00

1520 Printer Plotter 139.00
1526 Printer 299.00

**OVER 100 CRESTMATT BARGAINS!!
FOR: BUSINESS, HOME, PROGRAMMING,
EDUCATION + GAMES**

BEAT THAT!

**RING 01-749 2510 (24 HRS)/434 1736/743 8441/437 2707
TELEX: 267653 DRAKE G. CABLE: CRESTMATT, LONDON W12**

Delivery once cheque cleared within 7 working days. Bankers drafts, Building Society cheques, Postal orders = 3 days only.
Extra £5 for Datapost or Securicor overnight delivery. C.O.D.: for orders above £100 - a deposit of £10.00 is required.

CRESTMATT LIMITED

**EXPORT ENQUIRIES
NO TAX
DELIVERY AT COST**

**Showroom:
Lemarche
200/2 Regent Street
London W1**

**Mail Order/COD
5th Floor
Chesham House
136 Regent Street
London W1**

Prices subject to change without notice + goods are subject to availability

VIC 20 — ADDONS

Vixen RAM Cartridge

Switchable between 16K, 11K, 8K and 3K

Gives you the option of full 16K RAM or 8K and 3K RAM in one package. When added to a standard Vic-20 gives 16384 bytes or extra memory in memory blocks 1 and 2 or 3092 bytes of extra memory into the 3K memory block AND 8192 bytes of extra memory switchable between memory blocks 1 and 3.

- Fully compatible with available motherboards/modules
- Simply plugs into the rear expansion port of computer
- No re-addressing of existing Basic programs needed

£34.95



THE VIXEN MOTHERBOARD

THE EXPANDABLE EXPANSION SYSTEM - Providing 4 additional cartridge slots PLUS ROM socket. The slots are switchable, enabling cartridges to be left in place and selected as needed by switching, thus avoiding constant handling and danger of breakage. Having one socket at the rear enables further expansion. Used in conjunction with one or more Vixen Rams full expansion can be achieved. ROM socket enables ROMs and Eproms to be fitted for future software programs, toolkits, etc. A range of ROM based software will soon be available from the manufacturers. Industry standard Eproms, 2716, 2732, etc., are readily available and easily programmed and copied. A sound investment for the serious user and serious games player which will not become obsolete.

£31.95

TREMIVER LTD

93a Pack Lane, Basingstoke, Hants

I wish to order the following:

Quantity	Item	Amount
----------	------	--------

TOTAL

All prices include VAT and post and packaging. All items include a full year guarantee. Products are stocked and usually despatched within 10 days. Overseas customers add £4 post and packing. Cheques/Postal Order, etc., payable to **Tremiver Ltd.**

Please debit my Access/Barclaycard/Diners Club Int/as below. Round the clock 7 days a week Telephone orders **0256 66116**

Card No.

Signature

Name

Address

CU

CHROMASONIC

PERSONAL

COMPUTERS



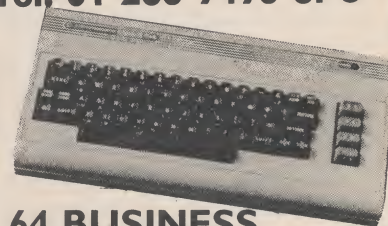
48 JUNCTION ROAD, ARCHWAY, LONDON N19 5RD Tel. 01 263 9493 or 5

Commodore 64 computer

NOW

£199.95

Plus our 2 year guarantee



64 STARTER PACK

Commodore 64
cassette deck Intro
to Basic (part I)
Quickshot joystick
Game

ONLY **£255.00**

C2N cassette deck **£39.10**
1541 disk drive + FREE Software **£195.95**
1701 colour monitor **£195.95**
Quickshot joystick **£9.50**
Pair of Quickshot joystick **£17.95**
Introduction to Basic (part I) **£14.50**
Programmers Reference Guide **£9.95**
Anagram Purch ledger (+ Nom Ledger) **£75**
Sales Ledger (with invoicing) **£75**

64 HOME/BUSINESS PACK

Commodore 64
1541 disk drive
Box of diskettes +
FREE SOFTWARE
Easy Script and
compilation of 6
games on
disk

ONLY **£395.00**

64 BUSINESS PACK

Commodore 64
1541 disk drive
MPS/801 Printer
Disks and Paper +
FREE SOFTWARE
Easy Script and
compilation of 6
games on
disk

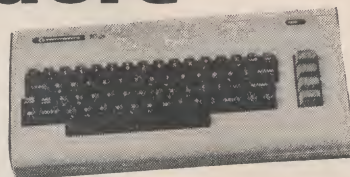
ONLY **£595.00**

PHILIPS 12 inch G/SCREEN MONITOR **£79**
MPS/801 Dot matrix printer **£195.95**
1526 Dot matrix printer **£295.95**
1520 printer/plotter **£149.95**
RX80 Dot matrix printer **£259.95**
RX80F/T Dot matrix printer **£299.95**
FX80 Dot matrix printer **£399.95**
FX100 Dot matrix printer **£545.95**
JUKI Daisy Wheel Printer **£395.95**

commodore VIC 20

SPECIAL OFFER PACKAGE

OUR PRICE **£134.95**



64 Two IEE Interface **£68.94**
Centronics Interface Table **£19.95**
Software for Centronics Interface **£7.95**
Easy Script (word processing) **£69.95**
Easy Spell (dictionary) **£50.00**
Superbase 64 **£99.95**
Calc Result 64 **£99.00**
Bridge 64 **£29.95**
64/Vic/1541 Dust Covers **£2.95**

16K RAM PACK **£28.95** 32K RAM PACK **£47.95**

ALL 64 PERIPHERALS, DISK DRIVES, PRINTERS, JOYSTICKS WORK WITH VIC20

MEDIA SUPPLIES

DISKETTES by Verbatim (supplied in boxes of 10)
Single sided, Double Density, 40 Track **£17.95**
Single sided, Quad Density, 80 Track **£24.75**
Double sided, Quad Density, 80 Track **£32.75**
Library Cases (Holds 10+) **£1.35**

Plain Computer Paper
11x8 **£13.80**
11x9 1/2 **£12.65**
11x15 3/16 **£15.52**
Paper price is for 2000 sheets
Dust Covers
64/VIC20 **£2.95**
1541 **£1.95**
1525 **£2.95**
1526 **£3.95**

We guarantee all our products for 1 year, except 64 and Vic which is 2 years. Payment may be made by Access, Barclaycard, Bankers draft, Building Society cheque or cash. Sorry, cheques need 4 days clearance. Postage and packing:- Please allow £5 per computer, disk drive or printer, this price also covers insurance.

ALL PRICES INCLUDING VAT, AND SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

Letter from America

by Mike Apsey



Here is a random collection of interesting facts about your Vic-20 and its operation.

If you make your first program line a REM followed by a shifted "L", your program will not LIST. Instead when you LIST, you will see only a ?SYNTAX ERROR.

POKE22,35 will keep your program line numbers from printing in a LISTing. This POKE may be used in conjunction with the CMD command to give you a tiny word processor.

Pressing the plus, minus and pound key all at once will home the cursor.

LOAD"\$\$",8 will return the disk header, and the number of blocks free, but no contents.

LOAD"\$*-PRG",8 will show only the PRG files on the disk.

LOAD"\$*-SEQ",8 will show only the SEQ files on the disk.

Using the memory-read and memory-write disk commands is similar to PEEKing and POKEing the Vic memory, but directs the commands into DOS and DOS RAM. VIC-1540/41 drives contain about 2K of RAM.

Lo-res graphics are those pictures drawn using only the characters available from the keyboard, with none specially defined.

The CMD command contains a carriage return. If you wish to keep it from happening, send "CMD,".

SYSPEEK (65532)+256*PEEK (65533) will reset any Commodore computer, and is a universal reset call.

POKE212,0 will cancel the quotes mode. POKE212,1 will turn it on.

Location 653 contains the three flags, SHIFT, COMMODORE, and CONTROL. If bit 1 is set, the SHIFT key is pressed; if bit 2, it's the COMMODORE key; and bit 4 reveals the CONTROL key. How do you see which bit is set? Use the boolean operand "AND" to compare bits, as illustrated in this short program:

```
100 IF PEEK(653) AND 1 THEN
  PRINT "SHIFT": GOTO100
200 IF PEEK(653) AND 2 THEN
  PRINT "COMMODORE":
  GOTO100
300 IF PEEK(653) AND 4 THEN
  PRINT "CONTROL":
  GOTO100
400 PRINT " " "": GOTO100
```

The ANDing technique above could be a key to your understanding how one byte (eight bits) can contain more than one piece of usable information.

If your disk gets stuck in the ?DEVICE NOT PRESENT rut, initialize it with: OPEN1,8,15,"I": CLOSE1.

A reader reports an increased 1541 reliability by raising the drive above the table with taller feet, and installation of a small fan at the top-rear of the drive to draw air up through the drive.

A disk can be formatted without changing the ID, by leaving it out of the format command. This

will only work if the disk has been previously formatted, and an ID exists.

Do not use GO as a variable — to honour the spaced-out GO TO, Commodore included GO in the keyword table. If G occurs within a variable, line followed by the boolean operator OR, make sure a space is placed between the G and the OR.

Confused about whether you have the right number of open and close parenthesis in a Basic line? Remember that you should have the same number of CLOSES as you have OPENS.

Transactor (the US newsletter) reports that a program listed to the 1525 printer immediately following a SAVE will drop characters. A suggested fix is to type VERIFY (RETURN) RUN/STOP.

The 64 VIC chip has no interlace mode: the Vic-20 does.

If a program is halted with RUN/STOP, entering CONT will resume the program — unless any Basic program lines have been added, deleted, or edited. CONT-inuing will cause the prompts to no longer be suppressed, and some screen clutter may be generated in the CONT-inuation. It will be quickly noticed in LOADs from within programs.

Disk drive making funny noises? It is possibly to place some disks into the drive with the disk slightly off center. This is especially noticeable on disks without hub rings. Make a small attempt not to get carried away with the assumption all is well when you throw your next disk into the drive.

Programs can be easily loaded from the disk directory, by placing the cursor at the first position on the line containing the desired program, typing LOAD (over the number of blocks contained), then cursor past the closing quote, where ; is added. The screen will over-print and look quite messy; but the LOAD will work, and the program will LIST and RUN.

With most printers top-of-form adjustments should be made prior to power-up, as it is the initialization of power that sets the printer.

I would like to report a reduction in twin lock-ups since replacing my 6522 VIAs with 6522As. Inside the Vic, the 1MHz 6522 is clocked at 14.318 MHz/14 (or roughly 1.023 MHz) — leaving no margin. The 6522A is a 2 MHz version of the same chip.

If you would like a blank line or two to separate sections of a program, enter your desired line number followed by a colon, the line will stay, but will not give ?SYNTAX ERROR when RUN. It is similar in this application to the REM statement.



VIC 20

32K SWITCHABLE TO
3K, 16K, 24K, BLOCK 5.

£49.95 inc. VAT

16K SWITCHABLE TO 3K.

£34.95 inc. VAT

VICSPRINT 64 CENTRONICS
ADAPTER CARTRIDGE

£57.50 inc. VAT

16K STANDARD

£27.95 inc. VAT

ALL UNITS GUARANTEED 2 YEARS. ADD £1 P&P.

OVERSEAS ORDERS ADD £3 P&P.

TELEPHONE YOUR ACCESS OR VISA CARD NUMBER

FOR DESPATCH BY RETURN POST, OR SEND YOUR CHEQUE/P.O's TO:-

RAM ELECTRONICS (FLEET) LTD., (DEPT. CU),

106, FLEET ROAD, FLEET, HANTS. GU13 8PA.

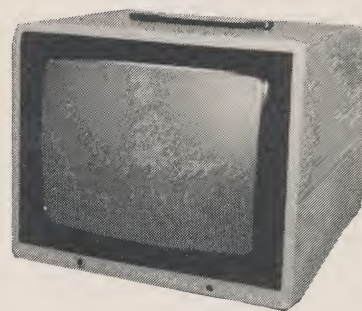
TELEPHONE (02514) 5858.

CALLERS WELCOME MONDAY TO SATURDAY. HALF DAY WED. TRADE ENQUIRIES WELCOME.

A VERSATILE 14" COLOUR MONITOR (WITH SOUND) FOR YOUR COMMODORE (OR ANY OTHER MICRO)

A JLC COLOUR MONITOR WILL:

- ★ provide improved display clarity and performance for clearer, crisper images
- ★ be a neat, compact and professional product that represents remarkably good value for money
- ★ have adaptability with a simple input connection switch for your Commodore Video input or RGB input
- ★ be compatible with all popular micros and most video recorders, viewdata adapters and cameras
- ★ be designed and made in Great Britain
- ★ have a robust plastic cabinet
- ★ fully guaranteed
- ★ money back if not completely satisfied



Model 3373FCSM with CV/RGB & sound inputs

ONLY £199 with Lead
includes VAT

ALL PRICES INCLUDE VAT P&P UK Mainland £8

Available from
Direct Electronic Displays
Unit 7, 551A High Rd, London N17 Tel: 01-808 8847

**12"
MONOCHROME
HIGH RES GREEN PHOSPHOR
MONITOR
IN METAL CASE**

ONLY £79 inc VAT

**SPECIAL
PROMOTION**

Our regular round-up of games reviews

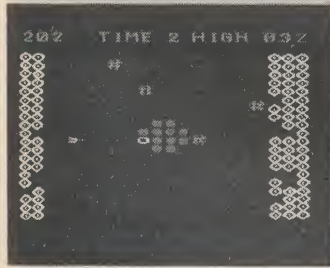
We get to see a lot of games here at Commodore User, so many in fact that we can't handle all the reviewing ourselves – we farm out some of them, which is why our reviews have someone's initials at the end of them. We look at everything we get, but we don't necessarily print all the reviews we write: instead, we tend to stick with (a) all the best games we come across and (b) those games that you're most likely to find in the shops or the mail order ads.

ATOM SMASHER Vic-20 (Unexpanded) Keyboard or Joystick Price £6.99

Super ZAP!!! Eat your heart out, Enrico Fermi! Join 'Greenpeace' (?) and stop the runaway Nuclear Reactor going into meltdown. What a wonderfully constructive game.

ROMIK SOFTWARE PRESENT ATOM SMASHER FOR THE UNEXPANDED VIC 20

The atom – the heart of a radioactive nucleus. To destroy itself, it must first shed its protons and neutrons. In doing so, it releases a tremendous amount of energy. This energy is what makes the atom so powerful. In this game, you control a proton and must destroy the nucleus before it explodes. If you do, you'll be the supreme world champion!



"A REAL ACTION SHOT OF THE GAME!"
WILL YOU BE THE SUPREME
WORLD CHAMPION?

The scenario goes quite a bit haywire after this; you do not have to shuffle graphite rods and liquid sodium coolant, but instead you have a spaceship-type thing with a Directed Energy Weapon to disrupt the over active Proton within the nucleus whilst dodging the electrons – and all this before the molten debris swamps the core! Your high-tech 'Waldo' can also destroy the encroaching molten mass: but this is no long term solution, you must keep zapping those Protons.

Loads in two parts. I consider the use of the space bar to move through instruction pages is a mistake; it is too easy to flip over more than one page. The game however is brilliant! While the graphics are fairly simple hi-res, the sonics are great – they really wind you up as your time runs out.

It is quite a hard game to play; level one is all right for a

beginner, but at the higher levels it really gets hot. So does any game: but this one is a must! JDC

Romik Software

Presentation: ■■■□
Skill level: ■■■□
Interest: ■■■□
Value for money: ■■■■

BOMBER RUN/ SUPAVADERS Vic-20 (Unexpanded) Keyboard only Price £6.95

Two games from you-know-who. **Bomber Run** is a classic Scramble-type game with little to recommend it above many others, other than the pretty cityscape over which you fly. **Supavaders** is a fairly good variation on the Invaders theme, where the aliens not only fall from the sky but take over your city as well.

Unfortunately these two games have almost nothing original to offer and simply do not compare in quality to even the poorest games available from the established software houses. JDC

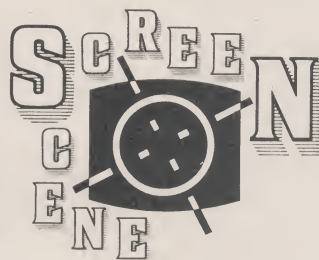
K-TEL

Presentation: ■□□□
Skill level: ■□□□
Interest: ■□□□
Value for money: ■□□□

BOSS Vic-20 (+8K) Keyboard only Price £14.95

The first of three Chess programs I ended up with in time for this review: interesting to see them all together. According to its own publicity, **BOSS** is supposed to be the best chess program around: but unless you are at a very good level yourself you won't notice much difference in quality of play between these programs.

With **BOSS** you get a slightly



squashed chessboard, which is no trouble after a few minutes play; the graphics are clear and the moves very easy to make. You can't change the colours of the screen and pieces, but you can set the screen with POKE 36879 before loading and your chosen screen colour remains in operation whilst the program is running.

Major playing difference – **BOSS** takes en passant automatically whilst **Grand Master** only does this if told to. But only a fussy chess player will find the slight variations each of these programs plays on the rules in any way annoying.

So this is a good basic chess program with its nine skill levels. The explanatory notes could do with a bit more detail, though. JDC

Audiogenic

Presentation: ■■■□
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■

KRAZY KONG Vic-20 (+16K) Joystick or keyboard Price £7.95

This is about the best version the famous arcade game I have seen for the Vic. It has good multi-colour graphics with a tune at the start, though a little more sound when "Mario" runs would be better. The game is well presented on the screen, with interesting titles and high score (top four scores can be recorded to three initials). Packaging is

good, with a background story and full instructions.

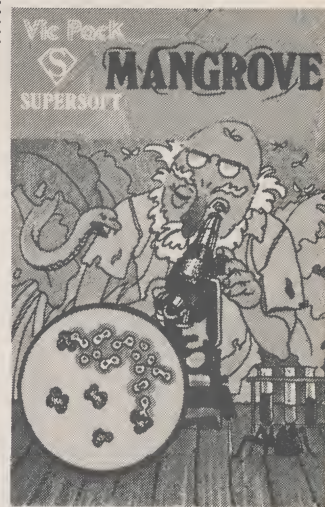
Either joystick or keyboard can be used: I found using the keys almost impossible, and a joystick allows much quicker movement.

There are four different sets with increasing difficulty – including the familiar obstacles barrels, fireballs, the lift, and holes to jump across. The lift on the third set requires perfect timing to jump on to it, and of course, to jump off again.

Well done Anirog! JB

Anirog Software

Presentation: ■■■■
Skill level: ■■■□
Interest: ■■■■
Value for money: ■■■■



MANGROVE Vic-20 (Unexpanded) Keyboard or Joystick Price £7.95

Another popular one from Audiogenic that I didn't like the last time I reviewed it, which only goes to show how much influence I have!

Mangrove is a cross between *Life* and *Asteroids* in style but with a biological scenario. You must enlarge and protect your colony of cells by leaving baby cells in the wake of your cursor as you chase the invading killer

microbes. Since your baby cells and the main culture only survive the passage of the generations according to the usual rules of Life, you can't just leave your baby cells anywhere or they will not survive; and you can't let a part of the main colony get cut off or it will die too. Clump them, clump them!

Apart from your skill with the cursor you have an emergency supply of germicide. But this must be used sparingly – that is, three times per game. The passing of the generations happens with ever-increasing speed, so it can all get very hectic. The sonics get very hectic too, even though they are not very original. The graphics are clear but not very clever, and I am still not thrilled by the game.

So what makes it so popular? Well, it is very hard to play; your cell culture dies off at an alarming rate and those killer microbes and new generations come faster and faster. So if you think you can handle a tough one this is well worth checking out; but a lesser games player may find the overall presentation on screen a bit uninteresting. JDC

Audiogenic

Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■

MATRIX
Vic-20 (+8K)
Joystick only
Price £6.00

If you bought *Gridrunner* for the unexpanded Vic and have since had an 8 or 16K expansion, this is the game for you! It is based on *Gridrunner*; the game has 20 sectors to clear, with the first six levels being selectable by the player. The main obstacle is the centipede-type creature, but there are also some 'cosmic cameloids' thrown in as an added test.

Other targets include 'deflexors' which send back your own bullets, and a cheeky little being called the 'snitch' who directs the horizontal tracker to fire at you...

If all this sounds confusing, don't worry, because instructions are supplied to Llamasoft's usual high standards on the packaging – along with the basic story of the Gridwars, which adds interest. The game itself starts with an interesting trailer, and the score and skill levels are

clearly displayed along with the hi-score.

A joystick is required to play this fast all-action game: and going by what the last reviewer of *Gridrunner* said, this game must receive full marks for all four categories! RB

Llamasoft

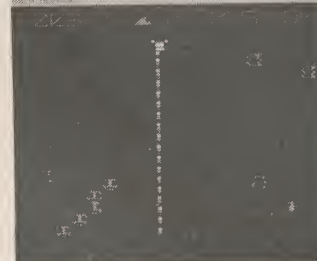
Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■

PEDES AND MUTANTS
Vic-20 (Unexpanded)
Keyboard only
Price £6.99

An *Asteroids*-type game where your ship is at the top of the screen and the Aliens and such scroll up towards you. Get the idea? Well, you ain't seen nothin' yet! The speed of attack is incredibly hectic and it's extremely hard to clear your path of Pedes and Mutants and score high points.

ROMIK SOFTWARE PRESENT
PEDES & MUTANTS
FOR THE UNEXPANDED VIC 20

Fight off the dangerous Pedes that head towards you at ever increasing speeds. Shoot the Aliens and Fleas before they get you. Try and manoeuvre your ship into the bonus landing beam to score extra points. Avoid the rocks that necessarily fly at you. 10 selectable difficulty levels.



"A REAL ACTION SHOT OF THE GAME"
WILL YOU BE THE SUPREME WORLD CHAMPION?

It is almost as hard to read the instructions on the screen as the colour contrast is rotten. This might not seem important as the instructions are also on the cassette cover, but I have a thing about unclear screens.

Anyway, loads of ways to score points – both by hitting targets of various Mutant kinds and by dodging bits of space debris. Very complicated, needs lots of practice. The game loads in two parts. The game itself is wildly dramatic, with a cunning intermission that mind-blows you into having another go. The sonics are quite good; and the

graphics are very clever, though a bit murky in places.

Definitely one to watch out for, but I have two criticisms: the laser bolt and my ship seemed to get separated if I move too quickly – making a very odd scene as ship and laser moved about the screen with lives of their own. And at the start of the game it is almost too fast to play unless you are really good. For these reasons I would not buy it without a demonstration. JDC

Romik Software.

Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■

QUADRANT
Vic-20 (Unexpanded)
Keyboard or Joystick
Price £6.99

A zap-the-aliens game with a difference – and what a difference! Earth station Synlac is mined for its reserves of precious ore but latterly it has become the testing grounds of the Arcturan Macroblats and their new Trak-Bombs. Life is therefore difficult for the miners: and you, (alias Boris the Galactic Hero) must patrol Synlac's four quadrants, jumping craters and zapping the Macroblats as you go.

Boris takes the form of a little running/jumping/shooting man against a moving planetary surface. It is here that this game is so good; foreground, midground and background move across the screen at different speeds whilst the Macroblats manifest themselves as twirling wire-frame cubes. So what? Well, this clever use of parallax motion and the Necker Cube illusion create an impression of perspective and depth which I found fascinating. Not the three dimensions that Romik claims: but who wants to split hairs? I love it!

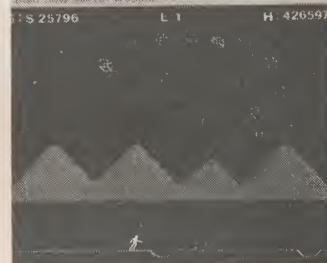
To be truthful, there isn't all that much variety in the game; run, jump, shoot, that's all. But it is incredibly engrossing to play. Although I haven't seen any of the true stereoscopic games now out for the Vic I suspect that Romik's use of these simple perceptual tricks may prove more effective than the route taken by companies such as Postern. Now, Romik, how about a 16K version with a bit more variety in the play? JDC

Romik Software.

Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■

ROMIK SOFTWARE PRESENT
QUADRANT
FOR THE UNEXPANDED VIC 20

A Three Dimensional Game!! Earth Station Synlac has been used by the Corporation for its valuable reserves of Borax, since it was discovered in 1895. Recently a band of Arcturian Macroblats started using the planet's surface to test their new secret weapon.



"A REAL ACTION SHOT OF THE GAME"
WILL YOU BE THE SUPREME WORLD CHAMPION?

VIC-TORIAN FOLLIES Adv. 1
SEAQUEST
VIC-20 (+16K)
Keyboard only
Price £6.95

Seaquest is presented as an adventure game but is really a more conventional graphics game. The keys (What, No joystick option? Rats!) are used to move a sailing ship and to lower a diving bell into the murky depths. An audio detector warns of the presence of treasure, enabling you to position your bell precisely and to hoist the booty aboard to score points. Various hazards keep cropping up in the form of storms, sea serpents and other aquatic horrors, all intent on marring your treasure-seeking.

The game sounds complicated; but the instructions are very good, and after a few minutes it becomes quite easy. Graphics are good, too, though it's all in low resolution and the graphics jerky. The action is too slow and the required skill level too low to hold adult interest for long, but children will probably thrive on it. A save-to-tape option exists, but I can't imagine many people want to use it. WG/PR

Novasoft

Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■

METAGALACTIC LLAMAS BATTLE AT THE EDGE OF TIME

A fast and original game for the unexpanded VIC. Challenging and colourful, with good sonics and a unique game action and design, this promises to be the most exciting new 3.5K VIC game since the introduction of GRIDRUNNER nearly a year ago. £5.50

LASER ZONE

Experience Laser Zone – an utterly NEW totally ORIGINAL masterpiece of Video games design. Learn to control two spaceships at once. Feel the EXHILARATION as, after long hours of practice, you control the two ships so that they function as a smooth, co-operative team! Feel the raw POWER as you lunge for the electro button and BLAST your enemies into expanding clouds of SPACE JUNK!! Feel the humiliation as a carelessly aimed BLAST slams into the side of your last remaining ship!! 8K expansion required.

Available for Commodore 64 £7.50 and VIC-20 £6.



MATRIX

Jeff Minter has taken Gridrunner – the game that topped bestseller charts in USA and UK – and created an awesome sequel. Graphically superb, it features multiple screens, new aliens and attack waves, mystery bonuses, renegade humanoids, deflexor fields, diagonal tracking, countdown/panic phase and much, much more.

Packed into 20 mind-zapping zones and accompanied by incredible sonics. 8K expansion required.

Available for Commodore 64 £7.50 and VIC-20 £6.

HOVER BOVVER

A totally original arcade game for C64 featuring outstanding graphics and a sound track created by a professional Piano Wizard. Gordon Bennet has

borrowed his neighbour's Air-Mo lawnmower. Mow your way through as many of the 16 lawns as you can before the pursuing neighbour retrieves his mower. Set your dog onto the neighbour to help you out of tight spots and don't annoy the gardener. Try not to plough through the neat flower beds or overheat your mower!

£7.50

REVENGE OF THE MUTANT CAMELS

At last the long awaited sequel to Attack of the Mutant Camels is available. You are controlling a ninety foot high, neutronium shielded, lazer spitting death camel, leading a rebellion against your evil Zzyaxian overlords. The game features beautiful smooth scrolling graphics and no less than 42 different attack waves, more than any game in video history. The challenge of play will last for months as you battle to see what's on the next wave.

£7.50

ATTACK of the MUTANT CAMELS

Planet earth needs you! Hostile aliens have used genetic engineering to mutate camels from normally harmless beasts into 90 foot high, neutronium shielded, lazer-spitting death camels!! Can you fly your tiny, manoeuvrable fighter over the mountainous landscape to weaken and destroy the camels before they invade the humans stronghold? You must withstand withering laser fire and alien UFOs. Game action stretches over 10 screen lengths and features superb scrolling, scanner 1/2 player actions and unbelievable animation! Play this game and you'll never be able to visit a zoo again without getting an itchy trigger finger! Awesome m/c action!

Available for Commodore 64 £7.50.

GRIDRUNNER

Finally true arcade quality on the unexpanded VIC! Shoot down the segmented DROIDS invading the grid. Beware of the pods and zappers! The awesome speed, sound, and graphics gives you the best blast available for unexpanded VIC. Available for VIC-20 £5.00 Commodore 64 £5.00 Atari 400/800 £7.50

All orders add 50p postage and packing

Llamasoft

AWESOME GAMES SOFTWARE

49 MOUNT PLEASANT,
TADLEY, HANTS. RG26 6BN.
TELEPHONE: TADLEY (07356) 4478

LLAMA SOFT GAMES NOW IN BOOTHS,
LASKYS AND MANY OTHER RETAILERS



The Forth Page

The complete Forth review?

by Richard G Hunt

This is the third in a series of four articles which look at the programming language Forth, and in particular at its implementations on the Vic-20. This one reviews a book which every student of Forth whether novice or old hand will at one time refer to.

Any subject no matter how esoteric will produce a standard text book. Forth is no exception. And the book that most people will consider as the book on Forth is Leo Brodie's *Starting Forth*; undoubtedly it is a valuable contribution to a general understanding of the language.

An alternative must be Alan Winfield's *The Complete Forth* (published by Sigma Technical Press at £6.95). It is cheaper, slimmer and British (the author being a lecturer in the Department of Electronic Engineering at Hull University).

Forth is essentially a portable language. In other words source code written in Forth will compile and run on any computer system that supports Forth. At least, that's the theory: obviously any code in any language that makes use of the operating system or the special characteristics of a given computer will not be portable without some effort.

With Forth, though, it doesn't matter so much because if the programmer has knowledge of the purpose of the code he or she is able to define a Forth word that serves that purpose. This is the essence of extensibility and is what can make Forth a specialist's language. I like to think of it sometimes as a DIY language!

Be that as it may, a Forth implementation starts out with certain well-defined characteristics. Other than extensibility, these are use of the stack associated with Reverse Polish Notation (RPN); and a dictionary of 150 to 200 words which form the elementary building blocks of higher-level programs (known in Forth as 'words'). Understanding of these characteristics is the stepping-stone to thinking and writing lucid Forth.

Coming Forth

Alan Winfield's book is subtitled "a new way to program microcomputers" and anyone new to Forth is recommended to take this as a literal statement. Most newcomers to Forth will arrive by way of another high-level language, probably Basic. Forth requires you to have only some idea of the function of a computer and not how that function is realised: put aside Basic statements and step into a looking-glass world where normalcy seems topsy-turvy (or at least backwards-looking) — this peculiar effect is a result of RPN and the stack.

Actually using a stack for all intermediate numeric results demands RPN. Also it is faster in operation: the familiar algebraic ordering system requires interpretation as well. The content of *The Complete Forth* is designed to introduce the beginner in easy stages to RPN and stack manipulation, leading early to examples of Forth words.

Naturally these are stack manipulating words that enhance Forth's arithmetical capability. Indeed I became very much

bogged down in Chapter 1 trying to define some stack manipulating words like ((pick) and (roll)) which were not implemented on my system.

Gradually more complex ideas are examined and a Forth system and dictionary described. From word definition to Forth structures (conditionals and loops), examples accompany description. Reliance is made on Forth being an interactive language. You don't need to, but it can help if you sit down and enter the words and problems into your own machine.

It is distinctly possible that the maker's handbook is less than explicit, and expert advice can be needed. Winfield comes to the rescue with the chapter on *Editing, Saving and Loading*. A Forth editor is perhaps the most non-standard part of the system. Both Forth implementations I have used on my Vic have different editors: one makes use of natural features (if that is the term) built into the Vic (and other CBM machines) plus some clever use of RAM in lieu of disk.

The other follows more nearly recognisable Forth standards, and I discovered it was fully described in this chapter. Unfortunately as I may have intimated in my earlier review of that cartridge it did not make that particular editor any easier to use!





The LAUGHING SHARK

proudly presents our fab new Commodore 64 game.
By the author of the smash hit FALCON PATROL;
HIDEOUS BILL AND THE GI-GANTS is destined to be another best
seller for Steve Lee and Virgin Games



HIDEOUS BILL & THE GI-GANTS

by Steve Lee VGA 6003 Joystick Control £7.95
A 3 part tale of heroism and
romance.
Try not to let the amazing graphics
and sound distract you as you help
Hideous Bill to rescue Greta from
the depths of the Gi-Gants nest to
obtain his surprise.



DON'T FORGET OUR VIC 20 WINNERS TOO!!



MISSION MERCURY

By Steve Lee
VIC 20 (unexp.) £7.95
VGA 3001
"... this is one of the few "home"
versions that is actually an
improvement on the arcade versions,
with better graphics and improved
action!" VIDEO, SEPTEMBER '83.
Joystick Control



ENVAHI

by Jeremy Walker
VIC 20 + 8K £5.95
VGC 3002
"... this game is exciting and
demanding, and an absolute must for
any serious computer-games player..."
PERSONAL COMPUTING
TODAY, FEBRUARY '84.
Joystick/Keyboard



CREEPERS

by Nick Rowden
VIC 20 3/8K £5.95
VGC 3003
"... the game induced in me some of
the excitement and compulsion that
Space Invaders once had..." YOUR
COMPUTER, DECEMBER '83.
Joystick/Keyboard

GAMES AVAILABILITY

If your LOCAL RETAILER is not yet
stocking VIRGIN GAMES - tell him he
should be - but, however, you can ORDER
DIRECT from "I'VE GOT NO GOOD
LOCAL RETAILER" dept VIRGIN
GAMES, 61-63 PORTOBELLO ROAD,
LONDON W11, enclose a cheque or postal
order for the right amount and DON'T
FORGET to put your name and address -
people do, you know!

MAIL ORDER

All our programs are available at normal
retail price including postage and packing,
direct from "OUR LOCAL DEALER HAS
GONE OUT OF BUSINESS BECAUSE
HE NEVER STOCKED YOUR GAMES
DEPT" at 61-63 Portobello Road, London
W11 3DD.

COLOUR CATALOGUE

If you would like a copy of our FREE
16-PAGE, COLOUR CATALOGUE
(listing details of all our games, complete
with screen shots), please write to the
"RUSH ME A KOSHER BROCHURE
PRONTO TONTO DEPT" enclosing an
A4 SAE with 17p stamp.

THE "I WANT TO BE RICH AND FAMOUS" DEPARTMENT

If you have a yearning to be RICH AND
FAMOUS and have written an ORIGINAL
GAMES PROGRAM, with good graphics,
for any of the popular home computers
other than the ZX81, PLEASE SEND A
CASSETTE VERSION (with details)
TO US.

PRESS REVIEWS

For a leaflet containing reviews of our
current range of games please write to the
"IF YOU'VE GOT THEM, FLAUNT
THEM DEPARTMENT!"



SPECIAL OFFER £1 OFF

Our VIC 20 GAMES if your order
from our "I CLAIM MY £1 OFF" Dept.
including this form
61-63 Portobello Road, London
W11 3DD.

Advanced Forth

The final chapters dwell on more advanced matters: double precision numbers, extending both the dictionary and the Forth compiling capability. As a finale the author provides the listings of two Forth programs which I recommend should be entered whether they are your type of program or not. What can be learned from someone else's code cannot be written down easily.

There are indeed many areas in this book which deserve detailed study and exercise at the keyboard. To the example of extending stack manipulating words I should add extending double precision words. It is eminently satisfying to define a word intellectually and then see that it actually performs as expected (or as hoped!). The book provides the stimulus as well as the material on which to build.

Alas I cannot take credit for all such definitions which I have added to my Forth Definitions. Winfield is kind enough to provide definitions of several of the more useful words, proving beyond doubt that it does not matter which or whose Forth you have — only extend it as you will. Winfield writes to the 79-standard providing footnotes on some of the departures most likely to be seen.

Winfield in his preface states: 'Most of the existing languages suffer serious limitations; Basic is too slow for many applications; yet assembler is not user-friendly, is difficult to learn, and worse still, is limited to one processor. Forth overcomes all of these difficulties to provide a compact and friendly language, with fast execution.'



True. *The Complete Forth* too is compact and friendly. It is also a realtime tool for solving realtime problems — whether such problems are serious or less so again does not matter. Forth words that 'work' do so because they have been correctly compiled. That cannot necessarily be said of Basic statements.

Winfield's book is indeed a new way of looking at programming. It is readable and divided into manageable portions. It teaches, re-inforces and inspires deeper delving. It bears re-reading until the lessons have rooted. Then you are on your own — Forth is bounded only by the memory available to your machine. At £6.95 'The Complete Forth' is a worthwhile investment.

The Book: The Complete Forth

The Author: Alan Winfield

The Publisher: Sigma Technical Press

The Price: £6.95

The Reviewer: Richard Hunt

The Conclusion: A good (and British!) introduction

COMMODORE 64 SOFTWARE - New from the States

GAMES

JUMPMAN (D)	25.50
JUMPMAN JR. (X)	25.50
ESCAPE MCP (D)	29.50
SUPERCUDA (D)	29.50
OMEGA RACE (X)	17.50
LAZARIAN (X)	17.50
LA MANS (X)	17.50
KILLERPILLER (C&D)	16.50
GOLF (X)	22.50
SEA WOLF (X)	19.50
PACACUDA (C&D)	17.50
WIZARD OF WOR (X)	21.50
CANNONBALL BLITZ (X)	29.95
CROSSFIRE (T&D)	31.50
FROGGER (T&D)	30.95
MR. COOL (X)	29.95
SAMMY LIGHTFOOT (X)	30.50
THRESHOLD (X)	34.50
SHAMUS (T&D)	29.50
FT. APOCALYPSE (T&D)	32.50
REPTILIAN (T&D)	29.50
SURVIVOR (T&D)	29.50
PROTECTOR II (T&D)	29.50
DRECHS (T&D)	29.50
SENTINEL (T&D)	31.50
MORGAL (T&D)	31.50

PHARAOHS CURSE (T&D)	30.50
STAR TREK (X)	34.50
CONGO BONGO (X)	34.50
BUCK RODGERS (X)	32.50
ZEUS (T&D)	29.95
SPACE BATTLE (T&D)	17.95
SYCONS REVENGE (T&D)	17.50
ZORK I (D)	29.95
ZORK II (D)	29.95
ZORK III (D)	29.95
DEADLINE (D)	29.95
SUSPENDED (D)	29.95
WITNESS (D)	29.95
TELENGARD (T&D)	19.50
FLYING ACES (T&D)	19.50
PEGASUS ODYSSEY (T&D)	27.50
BEACH HEAD (D)	29.50
NEUTRAL ZONE (D)	29.50
CENTRAPODS (T&D)	17.50
LOGGER (T&D)	17.50
QUEST (T&D)	29.95

PROGRAMMING SERIES

ASSEMBLER-64 (D)	24.95
C-64 SUPER EXPANDER (D)	29.95
LOGO (D)	59.95
PILOT (D)	59.95
PET EMULATOR (T&D)	24.95

MACHINE LANGUAGE

MONITOR (D)	36.50
TURTLE GRAPHICS (X)	37.95
TURTLE TUTOR (X)	33.95
TURTLE TRAINER (X)	33.95

BUSINESS

EASY SCRIPT (D)	60.00
EASY SPELL (D)	24.50
EASY MAIL (D)	19.50
EASY FINANCE, I-V (D)	ea. 24.95
CALC RESULT EASY (X)	59.95
GENERAL LEDGER (D)	49.95
ACCOUNTS RECEIVABLE (D)	49.95
ACCOUNTS PAYABLE (D)	49.95
PAYROLL/CHEQUE WRITING (D)	49.95
INVENTORY MANAGER (D)	49.95
SALES ANALYSIS MGR. (D)	49.95
DATA BASE MANAGER (D)	79.95
WORD PRO 3 + 64 (D)	67.50
HES WRITER (X)	39.95

HOME UTILITIES

MONEY MANAGER (T&D)	29.95
ELECTRONIC CHECKBOOK (T&D)	29.95
PERSONAL ACCOUNTANT (T&D)	24.95
HOME INVENTORY (T&D)	19.95
COMPUTER MECHANIC (D)	24.95

ACCESSORIES

WICO JOYSTICK ARCADE QUALITY	29.95
WICO "THE BOSS" JOYSTICK	19.95

Key: (D) Disk; (T) Tape; (X) Cartridge

All Prices are British Pounds.

send to
BOX NO. P102
PARADOX GROUP
THE METROPOLITAN
ENFIELD ROAD
LONDON N1 5AZ

for education,
recreation
& business

pyramid

computerware

Go with Gortek

An easy way into Basic on the Vic

by Bohdan Buciak

Teaching young people Basic programming can be difficult if those same children have been using their home computers exclusively for playing games. So three English schoolteachers have devised Gortek and the Microchips, a set of programs that try to combine learning with game-play.

Commodore now markets it as a package containing two cassettes and a Training Manual. It costs £12.99 and looks pretty glossy and attractive. But is it informative? And how much real fun are Gortek and his Microchip friends?

First let us introduce Gortek, that staunch robot-like figure with the large worried eyes. Why worried? Because his planet, Syntax, is under threat of invasion from the nasty Zitrons. If they succeed, they'll destroy the all-powerful computer, Creativity, which Gortek guards along with his band of Microchips. You must learn to program along with the Microchips to repel the Zitrons and preserve Creativity. Sounds like being fun? Definitely, so load up the first program.

A rather simple game called Zittrack sets the course rolling. The Zitrons are attacking with that devious weapon, alien letters. As they fall, you must press the corresponding letters on the keyboard to destroy them. So zapping can be educational; a few minutes of that and you've miraculously learned a little about keyboard layout. Not much in the way of graphics, though. And that regrettably goes for all the games.

The next game counters another dastardly Zitron ploy. This time they're duplicating passwords to try and land. Trouble is, they can't spell so you zap the incorrect words to keep them out. Ah, so correct syntax is essential in programming? Maybe that point was too subtle - it's never really articulated.

Manual labour

Having done a little game playing, you're brought back to the appropriate page in the manual. After a little work, you're told to take a break and load up another game. This is the general pattern; you alternate between screen and book so the learning part never gets too strenuous. But what have you learnt by the end of the first tape?

Well, you've become more familiar with the keyboard. One of the games, Flog, has demonstrated the computer's ability to add and subtract. You've written a little program and learned some basic commands which the Manual very sensibly lists as a recap.

A few symbols for PRINT statements have also appeared which proved slightly more tricky; you're supposed to find out for yourself what the symbols do. There are answers in the back, but one gripe is that the 'heart' symbol isn't explained. So you've learned some of the basic stuff, and there's more to come.

But back to the Zitrons: they're now preparing to land on Syntax to sabotage Creativity, so training must go on. The manual comes up with these exhortations regularly but it does warn you against jumping ahead too quickly. That's wise because it's all getting more complicated.

Boxes of Variables

You've now reached the second tape and about a third the way into the Training Manual. The first program on the tape is called Boxes which corresponds with the page on variables. The book doesn't use this term but it

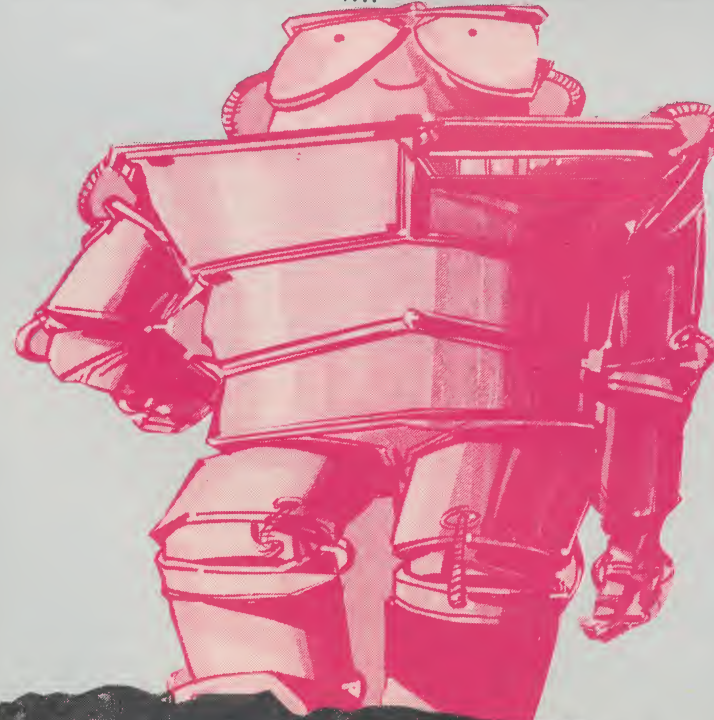
does impart the idea that a computer stores information, whether numbers or letters, in a 'box' labelled with a letter. It explains the dollar sign too as the indicator for alphanumeric variables, and uses the game to test your comprehension.

Having grasped that, you key in a program using string variables from the manual. Again, the book dispenses with the technical terms probably because they may confuse the tender of age. What's probably more confusing is not knowing how to correct lines when you get a syntax error on running the program. The Training Manual surprisingly neglects to explain this point, so you'll need to browse through your User Manual, earning you extra points for initiative.

Despite that, the book is generally very good. It's colourful, well-illustrated and uses bold print. The program listings are clear and easy to follow. The course has been designed so that more use is made of the manual as you progress, and it's never patronising either.

Back to the great task, though. The manual now looks at multiplication and gives examples of programs that print out multiplication tables. But if that's too academic for you, a flip over the page takes you to the computer art section. There's a program for this on the tape which sounds good but, in fact, it is quite boring when you run it. Since the manual gives listings of alternative designs, you'll probably be inspired to create something more imaginative.

But what's Gortek been doing all this time? You've probably guessed that the Zitrons aren't very artistic so learning a little about design is part of his counterplot. The next step is



Deep underground in the fathomless caverns of SYNTAX, the all powerful, all knowing, perpetual computer CREATIVITY resides. It lives on the imagination of life, fulfilling the many problems of the vast universe, protected by Gortek and the Microchips.



programming Creativity (the computer, if you'd forgotten) to be friendly. That sounds reasonable too, because "a smile generates a smile" chortles the manual in its usual happy tone. That should confuse the Zitrons. Meanwhile, you run the Conversations program and have a nice chat with the computer.

Playing with Zitrons

That theme is expanded in the manual, which lists an example of an interactive arithmetic program for you to play around with. This is where the division sign is introduced. But we're almost near the end and the Zitrons have

landed, only to be mesmerised by the next program you've just loaded. Of course, the object is that you help the Zitrons play – to make them forget their destructive instincts.

But that's not enough; you've got to write new programs to keep them occupied. So the last two pages are designed to test the programming knowledge you've gained. Whether you profited from the experience or not, it all ends happily. You've convinced the misanthropic Zitrons that "there is something better in life than destruction" and that "computing is fun". Could that be a side-swipe at space-invader zapping?

Conclusion

Young people reaching the end of this course will, no doubt, gain a sense of achievement even if they're already beginning to forget what was initially learned. That doesn't matter because they can do it all again, or any of it's

large variety of parts. This is a clever package, partly because it encourages children to find things out for themselves. Being based around a story, it holds interest far better than most educational programs. It's a good story too, and only the first in a series – Gortek and the Kryptobytes is coming soon.

Under review:	Gortek and the Microchips
Description:	Basic tutorial for kids
Supplier:	Commodore Business Machines (via dealers)
Summary:	Fun, effective – good value
Price:	£12.99



ISIS HATHOR

U.K.

Royden, Perks Lane, Prestwood, Great Missenden,
Bucks. Telephone: Great Missenden 3224

COMMODORE VIC-20 & 64 GAMES REQUIRED

High quality arcade games and adventures required. Top royalties paid if your submission(s) is accepted for distribution throughout Europe and America.

Submissions please on disc/cassette with full instructions, documentation etc.

REMEMBER



CBM-64 cass. £7.50 disc £10.50
posters £2.50

postage and packing included
for delivery within 24 hours

SOPHISTICATED GAMES FOR VIC 20

VIC CRICKET Realistic game of skill and luck with all the major rules of cricket correctly interpreted. Full scorecard, printer and game save facilities. Needs 16K expansion. **£5.99***

LEAGUE SOCCER League championship game for 2 to 22 teams/players. Automatic fixtures, full action commentaries, match facts. League tables, results check, postponed games, etc. Non league matches also playable – the VIC will even make the cup draw. Printer and game save. Needs 16K expansion. **£5.99***

WHODUNNIT? Twelve guests have gathered for drinks at Murder Manor. However one of them has more than drinks on his mind. Thrilling detective game for 1 to 6 players, with genuinely different murder every time. You can even re-name the suspects! Needs 8K expansion. **£4.99***

TOP OF THE POPS Money making game about the music business. Make your own records and see them climb the chart. Printer and game save facilities. Needs 8K expansion. **£4.99***

VIC PARTY Contains MASTERWORD, A DAY AT THE RACES, GAME X (Strip Poker), and CONSEQUENCES. Four games ranging from the serious to the ridiculous. All good fun – nothing offensive. Needs at least 3K expansion. **£5.99***

Available from

SOPHISTICATED GAMES,
Dept. CH, 27 Queens Road, Keynsham,
Avon BS18 2NQ. Tel 02756-3427

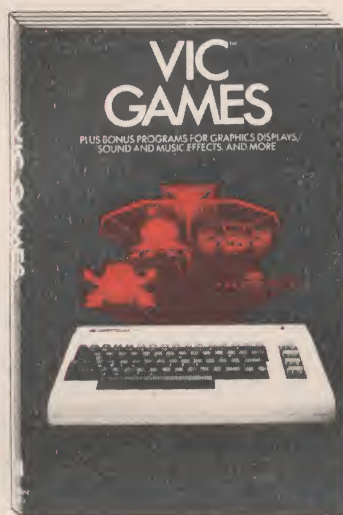
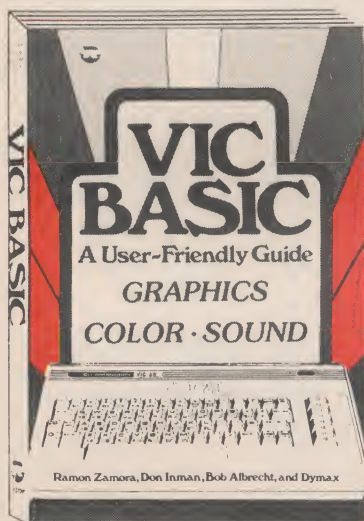
WRITE FOR DETAILS OF OUR FULL RANGE

*P&P free (U.K.) only. All games sold subject to our conditions of sale, which are available on request

MAKE THE MOST OF YOUR COMMODORE

Vic Basic

A step-by-step introduction to the VIC 20 computer and its language, Vic Basic. Teach yourself how to use the Vic to create your own programmes, music and art. Also included are puzzles, exercises and games programmes. 355 pages.



The Elementary Commodore 64

A beginner's step-by-step introduction to the Commodore 64, Basic and how to programme. Includes POKE and PEEK secrets, formatting text, data manipulation, arrays, editor, graphics and helpful hints. 230 pages.

★ Our Guarantee ★

We sell books which provide clear and concise information for Commodore users, written by experts.

★ Prices to our customers (inclusive of p&p †) will always be lower than R.R.P.

★ Despatch within 14 days of receipt of order or money refunded.



Vic Games

A collection of 36 arcade-style, strategy and educational word games for you to write and play. Create your own sound, music, utilities and graphics programmes that are real fun. A must for every Vic 20 owner. 183 pages.



The Master Memory Map for the Commodore 64

Full of useful explanations and examples. This book is a guided tour of all the memory locations – places inside your computer that make it act in special ways. You learn lots of uses for the Commodore 64, including how to make music and how to create the special characters used in games. 185 pages.

Please supply book(s) indicated.

I enclose cheque/money order for £

Name

Address

- | | | |
|---------------------------------------------------|-----------------------|--------|
| <input type="checkbox"/> Vic Basic | A user friendly Guide | £9.95 |
| <input type="checkbox"/> Vic Games | | £6.95 |
| <input type="checkbox"/> The Elementary Commodore | | £10.45 |
| <input type="checkbox"/> The Master Memory Map | | £10.25 |

† (Please add 80p for postage & packing)

ORDERS TO:

SOFTALK
16-18 Princess Victoria Street,
Clifton, Bristol BS8 4BP.
Telephone Bristol 0272 877245.

softalk

SOFTALK 16-18 Princess Victoria Street, Clifton, Bristol BS8 4BP. Telephone Bristol 0272 877245.

Vic Scrolling

by Barry O'Rourke
Irish Amateur Computer Club

Scrolling on the Vic is normally available only in one direction - up. The text on the screen moves up if you print anything on the last line.

The short Basic program below enables scrolling down. If text is printed on the second line of the screen and line 10000 is called, the whole screen (with the exception of most of the first line) is scrolled down one line.

```
10 AS = "" FOR T = 0 TO 18: AS + AS + CHR$(29):
  NEXT
12 AS = CHR$(19)+AS + CHR$(160) + CHR$(157) +
  CHR$(157)
14 AS = AS + CHR$(157) + CHR$(157) + CHR$(148)
  + CHR$(148) + CHR$(148)
1000 REM SCROLL DOWN
1010 PRINT AS:POKE 217, 158: POKE 218, 158
```

GOTO variable

by Barry O'Rourke
Irish Amateur Computer Club

As a GOTO must be followed by a number on the Vic or 64 - going to a particular line with a statement like "GOTO X+24*2" was impossible. Until now, that is.

The program below provides a full GOTO X command. It uses the form SYS location, formula where 'location' is the address in memory of the routine and the value of 'formula' is the required line number. Of course you must check that the line number does exist, otherwise you'll get an UNDEFINED STATEMENT ERROR.

```
10 FOR T = 0 TO 11: READ A: POKE 736 + T,A: NEXT
20 DATA 32, 253, 206, 32, 158, 205, 32, 247, 215, 76
30 DATA 163, 200.
```

Then you can use SYS 736, line number.

Subroutine printer

by Lenton Goforth

We spotted this useful-looking routine from Californian Lenton Goforth in an issue of the Commodore USA house magazine *Power:Play*. It's reprinted with thanks to author and editor.

In the process of writing a very long program, I needed a way to list the separate subroutines on the printer. Luckily, I had room for a routine to do this. Here's how it works.

When run, the program asks for three inputs from the user: title of routine, starting line number and ending line number. The listing of this routine is a sample output. Notice that the line numbers are included in the title.

First, leave room somewhere for the routine in your program. I chose to put it at the very beginning and call the routine simply by typing RUN. If I want the rest of the program to run, then I type RUN 100.

Then answer the prompts. When the screen clears and the printer stops, hit RETURN. When the printer stops again, hit RETURN to close the file.

Printer Routine

```
5 PRINT "[CLEAR,DOWN4]"
10 PRINT "[RVS]PRINTER[SPACE]OUTPUT[RVOFF]"
20 PRINT:PRINT"PAGE[SPACE]TITLE";:INPUT PT$
25 PRINT:PRINT"STARTING[SPACE]LINE[SPACE]
  NUMBER";:INPUT SL
30 IF SL=0 THEN 25
35 PRINT:PRINT"ENDING[SPACE]LINE[SPACE]
  NUMBER";:INPUT EL
40 IF EL=0 THEN 35
45 PRINT"[DOWN3,SPACE5]PLEASE[SPACE]ADJUST
  [SPACE]PAPER[SPACE]IN[SPACE]PRINTER"
50 PRINT"[DOWN]HIT[SPACE,RVS,SPACE]F1[SPACE,
  RVOFF,SPACE]WHEN[SPACE]READY"
55 GET A$:IF A$="" THEN 55
60 IF A$<>CHR$(133) THEN 50
65 OPEN 4,4,0:CMD 4:PRINT CHR$(14);"[SPACE3]
  "PT$;"[SPACE6]LINES"SL"- "EL;CHR$(15)
70 PRINT#4:CLOSE 4
72 PRINT"[CLEAR,DOWN7]"
75 PRINT"OPEN4,4,6:CMD4:LIST"SL"- "EL
80 PRINT"PRINT#4,:CLOSE4"
85 PRINT"[UP6]";
90 PRINT"[SPACE3,RVS,SPACE3]HIT[SPACE]RETURN
  [SPACE3]"
95 END
100 REM **** START OF REST OF PROGRAM ****
```


COMMODORE User

A PARADOX PUBLICATION

PULL OUT

DEALS FOR READERS

Welcome to **DEALS FOR READERS**, a collection of Special Offers from Commodore User magazine.

This Catalogue offers you excellent deals on Vic and 64 products. Some of them, like the dustcovers and the Virtuals tapes, we have produced ourselves. The others are things that we regard as Good Ideas and Good Value, mostly items we reviewed in Commodore User before we decided to sell them. On most of those we have fixed up discounts for readers (while we aren't allowed to sell books at a cut price, we can include P&P in our price).

If you want to take up any of the offers, just use the Order Form on the back page. And take a look through the Catalogue: even if you don't want to buy now, we'd like to know what you might be interested in seeing in future DEALS FOR READERS catalogues — let us know in the space provided on the Order Form.

A BETTER FOR THE

64



£17.95

In the December issue you'll find a review of Simons' Basic, the 'official' Commodore cartridge that provides extensions to the 64's standard Basic. We compare it with a tape called BC BASIC that does much the same kind of thing; and BC BASIC came out so well that we subsequently fixed up a discount deal for readers.

BC BASIC provides a set of extra commands for graphics, sound, I/O and miscellaneous programming. We concluded that it's much more professional than Simons' Basic, and since it's considerably cheaper it is — especially at our price! Simon's Basic is £50; BC Basic normally sells at just £19.95, and you can order it from us at £17.95.

Tee-shirts

£3.40

Sweat-shirts

£7.00

Commodore User tee-shirts and sweatshirts are in good-quality cotton, ideal for late nights in front of the computer or the beach at Torremolinas or the lounge bar at the Pig and Whistle.

Grey, with the magazine's logo big and bold across the chest. State size when ordering: we have small, medium, large and extra large.

WEAR
YOUR
MAG!



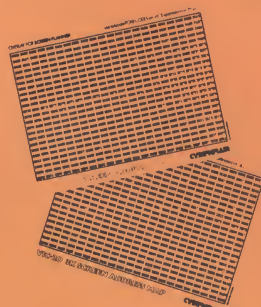
DESIGN YOUR OWN VIC SCREENS

£4.20

We came across this brilliant idea at the end of the Summer. It's simple really: the Cybergram Designs Vic-20 Graphics Aid Pack is a set of overlays and printed sheets on which you can design screen displays. With them you can immediately see the POKE locations you need for display and colour; and you can use successive sheets to set up a specific 'storyboard' from which to organise and visualise the sequences in a graphics program.

Your pack includes planner sheets for the standard 22 x 23 screen and plotter sheets for 1023 x 1023 hi-res graphics using the Super Expander; you also get a set of handy character designer sheets that simplify the construction of our own shapes.

Very neat, very clever — and really useful too. We're glad we can offer the Graphics Aid Pack to you . . . and at a discount on the normal RRP of £4.50.



Our New Mail-Order Catalogue

FALLING APART

£3.99

Our Commodore user binder holds 12 issues of the magazine (and Vic Computing fits it too!) Dark blue with the magazine's name in gold on the spine: smart, sturdy and sensible — the mags are held in by strong elasticated grips, easier and neater than the kind of binder that has metal rods for the purpose. And compare our price with what other magazines charge you for binders!



ORDER FORM
ON BACK PAGE

SPECIAL OFFER VOUCHERS

The deals

We have fixed up some deals for readers for a number of suppliers of Vic and 64 products. It's easy — and offers you substantial savings on a whole range of products!

Collect the appropriate number of coupons from successive issues of the magazine — the number you need varies from one supplier to another. When you have enough to claim

your discount you send off the coupons with a cheque or postal order to the supplier in question

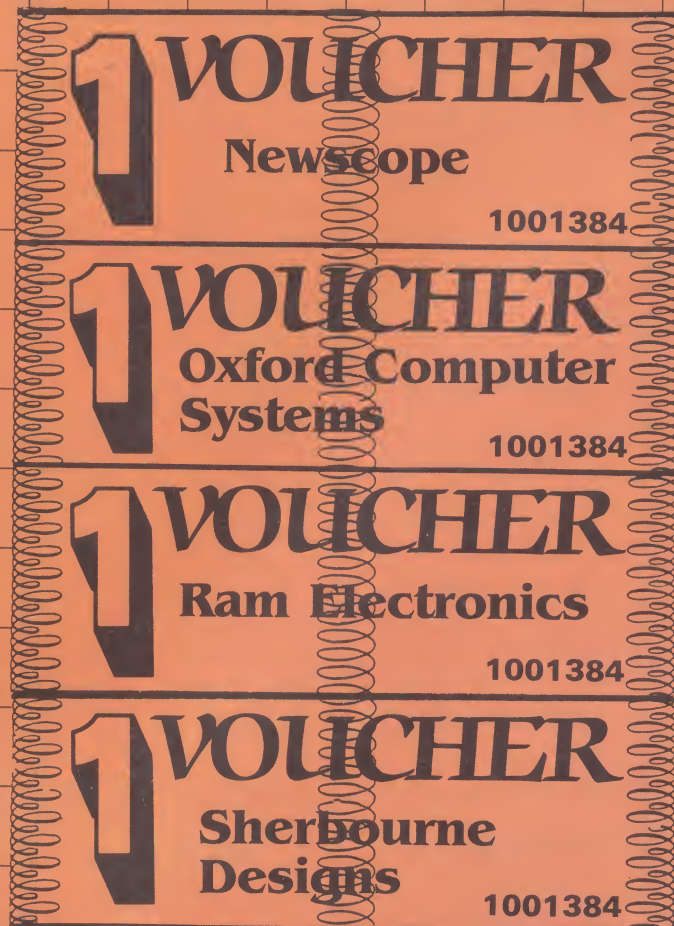
(NOT to us!).

Newscope Cut out this voucher and cut out the post and packaging charges on Newscope's A Stack, Printer Stand or Lockable A Stack Systems, see page 69 for their ad or call 0373 823189 for further details.

Oxford Computer Systems This voucher is worth 5 per cent off any one of Oxford's products — eg: Interprod, Petspeed, Integer Basic-Compiler, Cross Compilers or NEW Pascal Compiler. See page 58 for their ad or call Oxford on 0993 812700 for details.

Ram Electronics Hot off the shelves we've got the new RAM Serial IEEE Bus that fits into the user port leaving the Cartridge slot free! Available for Vic or 64 price £49.95 — but with this coupon £44.95. See the ad on page 28 or call 02514 5858 for further details.

Sherborne Designs NEW PRODUCT. Carry your Vic or 64 in style with this waterproof padded bag. Check the Dealer Box for more details or call 0373 823189 for further details.



This month we've got some great new products at discount prices. If you've a product you'd like to offer our readers or a great deal you'd like to share, then call us and we'll arrange it for you.

VICWEAR



Tee-shirts
£3.40

Sweat-shirts
£7.00

Ah, happy memories . . . our popular collection of good-quality Vic Computing tee-shirts and sweatshirts, all with the characteristic 'Vic Computing' logo. A choice of four witty slogans or the 'Vic Computing' banner writ large.

Tee-shirts in white, blue or grey. State colour and size when ordering: we have small, medium, large and extra large.

VIC: ALL YOU NEED TO KNOW

VIC 20 User Guide by John Heilborn and Ran Talbott, published by McGraw-Hill.

There are dozens of books about the Vic. But this one is the best all-rounder we've come across. Not cheap, maybe: but you get a beefy large-format paperback of 387 pages, packed with information and beautifully presented with professional illustrations and clear listings.

Ideal for beginner and expert alike. Hand-holding intro to the Vic; but also includes 'how to use' sections on disk and printer as well. Excellent on graphics and animation, on writing games, on sound (eg a good chunk on combining sound and animation).

£10.95

GET INSIDE THE 64

Commodore 64 — getting the most from it by Tim Onosko, published by Prentice-Hall.

Terrific value, especially at the price — 303 large-format paperback pages, a 'from the ground up' all-purpose manual/tutorial/reference for the 64 (genuinely the best we have found to date). Junk the Commodore-supplied user manual and get stuck into this: concise and sensible, clear presentation, well-written. Appendices include substantial contributions from Butterfield on the 64's memory and excellent exposés of sound and graphics.

If you want to have to use only one book to get on top of your 64, buy this one.

£7.95



KEEP IT CLEAN



£2.50

Sticky keytops? Things falling past the keys into the computer? Don't take the chance. When you're not using your Vic or 64, slip over one of our tailored Commodore User dustcovers — smart black nylon, featuring the magazine's logo on top. They do keep out dust, but they'll also cope with coffee splashes (anything less than a thunderstorm in fact!), paperclips, cigarette ash, the residue of longhaired cats, and the general detritus of daily life. One size fits all.

Compare our price, too. How can we do them so cheaply? And we're not compromising on quality, either: these are some of the best covers we've seen.

VICTAPES:

PROGRAMS WE'VE PRINTED

Both cassettes have ten programs on them. We use a high-quality tape, recorded both sides for security, with instructions on the liner card and references to the back issues in which the original appeared.

* VICTAPE ONE for any Vic

- BIG RACE by John Tully
- DIY CHARACTER EDITOR by Andy Finkel
- FLYOVER by Andrew Millett
- ICY ROAD by Sjoren Karason
- MORSE TRAINER by Clarence Buckley
- MOTHER HEN by Tim Duncan
- PEST EXTERMINATOR by John Tully
- SEAGULL by Josh Rai
- RESISTANCE ESCAPE by David Hearn
- VIC RHINO by Tim Duncan



* VICTAPE TWO for expanded Vics and more advanced programmers:

- ANALOGUE CLOCK by Trevor Starr . . . for any Vic
- DIY CHARACTER EDITOR by Bill Buck . . . for 8K+ Vic
- EXTRA HI-RES COMMANDS by C French . . . for 8K+ Vic
- GRAPH by Finnur Larusson . . . for Super Expander
- MOVIES by M Valentine . . . for any Vic
- POLYGONS by J P Mensinck . . . for Super Expander
- POSTER PRINT by Roger Peacock . . . for 8K+ Vic and printer
- UPSIDEDOWN by Josh Rai . . . for any Vic
- VIC JACK by M Hinks . . . for 16K+ Vic
- 3D UFO by Leonard Morrow . . . for Super Expander

Order Form

The prices below include postage and packing within the UK and Eire only.

European and International orders please add the amounts given opposite to the prices below:

Expect delivery in 28 days. Contact us if you haven't had your order within that time.

Sweatshirts
Tee-shirts
All tapes
Books
Covers
Binders

European	International
£1.00	£2.00
£1.00	£2.00
£ .50	£1.50
£1.50	£3.00
£ .50	£1.00
£2.00	£4.00

Write the number you require in the relevant Boxes	T-SHIRTS												SWEAT-SHIRTS				
	White £3.40				Blue £3.40				Grey £3.40				Grey £7.00				
	S	M	L	XL	S	M	L	XL	S	M	L	XL	S	M	L	XL	
A. VIC COMPUTING																	
B. CAPTAIN KILOBYTE																	
C. VICTIM																	
D. POKE 36879																	
E. UNEXPANDED VIC																	
Please state second choice in case of unavailability																	
F. COMMODORE USER										£3.40 White				£7.00 Grey			
All prices include post and packing. No hidden extras to pay!																	

TOTAL SWEATSHIRTS : no. ☐ at £7.00 total

TOTAL TEE-SHIRTS : no. ☐ at £3.40 total

VICTAPE ONE : no. ☐ at £5.00 total

VICTAPE TWO : no. ☐ at £5.00 total

VIC USER GUIDE : no. ☐ at £10.95 total

64: GETTING THE MOST FROM IT : no. ☐ at £7.95 total

COVERS : no. ☐ at £2.50 total

GRAPHICS AIDS PACK : no. ☐ at £4.20 total

BINDERS : no. ☐ at £3.99 total

BC BASIC CASSETTES : no. ☐ at £17.95 total

GRAND TOTAL £



NAME	THIS IS YOUR DELIVERY LABEL — PLEASE PRINT CAREFULLY		
ADDRESS	TOTAL ENCLOSED		
	cheques or postal orders should be made payable		
	to COMMODORE USER. Or use Access.		
	Access card no:		
	Date	Signature:	

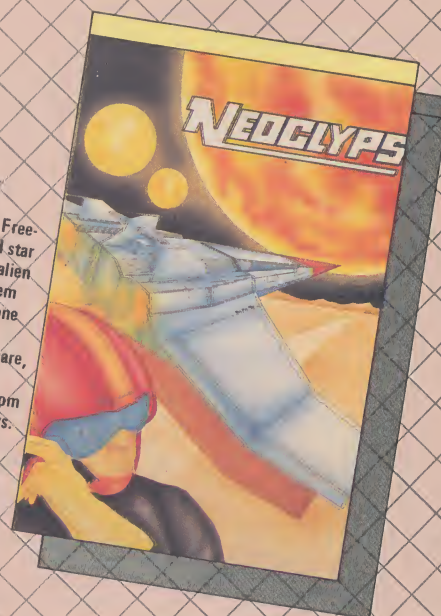
ARCADE ACTION & ADVENTURE WITH... COMMODORE 64



Mobydick

The object of this game is to blow up submarines, destroy the helicopter and catch the falling pilot, but do not kill the whale.

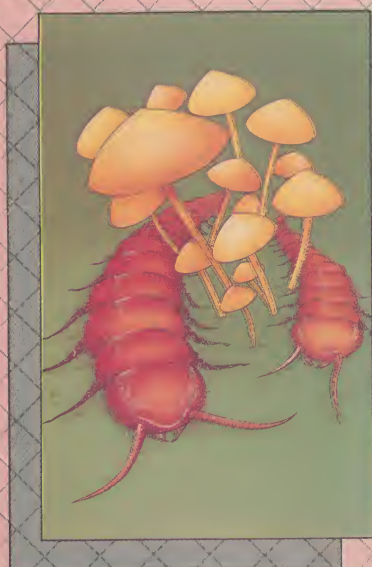
£7.95



Neoclyps

You are the GOOD GUY, Freedom Fighter and renowned star pilot. The BAD GUYS, an alien race from distant solar system have invaded NEOCLYPS, one of your colonial planets. Being the good guy that you are, you set off to liberate the Common Folk of Neoclyps from the oppression of the Bad Guys. The Bad Guys have populated Neoclyps with several radar towers which reveal your position to them.

£7.95



Cosmic Split

You are caught in a vicious jungle of giant insects. Centipedes are attacking you from all sides. Killer fleas are dropping from the sky, and to top things off there's a venomous spider lurking in the background.

£7.95



Metroblitz

The object of this game is to defend your city against an onslaught of suicidal aliens.

£7.95



Krystals of Zong

Your object is to overcome various obstacles and overpower creatures intent on stopping you as you progress on your quest for the Krystals of Zong. Quick reactions will be necessary if you are to succeed clues will guide you.

£7.95

**the finest arcade
action and adventure
from the U.S.A. Canada
and the U.K.**

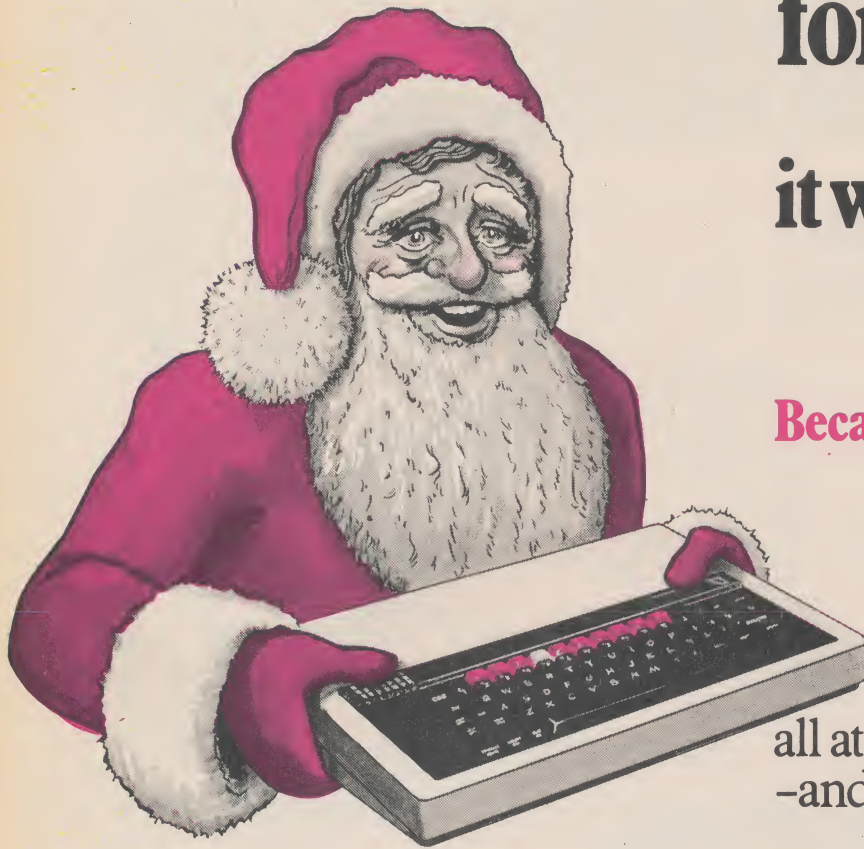


PSS SOFTWARE

FOR INSTANT CREDIT CARD SALES TEL (0203) 667556. SEND CHEQUE OR P.O. TO P.S.S. 452 STONEY STANTON RD. COVENTRY CV6 5DG. TRADE ENQUIRIES CONTACT JOHN FLETCHER, COVENTRY (0203) 81346

If I gave your son a Commodore 64 for Christmas,

it was the best present you've ever had!



Because you could run your business for little more than the cost of his games!

**STOCK CONTROL, INVOICING
SALES & PURCHASE LEDGERS**
all at an incredible £30* each—on disk*
—and we guarantee them to work.

Software For All's first-class range of Business Programs will do all your paperwork chores efficiently and cost-effectively—because they have been thoroughly tested before release so

▷ **Stock Control:** Gives full control of your stock lines. Issues, Receipts, Adjustments, Stock Updates, Stock Valuation, Reorder Reports and full Stock Listings.

▷ **Sales Ledger:** Full updating of clients' accounts. Aged Debtors' Analysis—aids credit control. Statements, VAT Summary, Ledger Cards, Daybooks, Invoices, Credit Notes, Receipts and Journals.

you can be sure they won't let you down. And at prices realistic enough to interest any businessman, however small.

Briefly, here's what they'll do:

▷ **Invoicing:** Integrates with stock—calls up items automatically. Rapid, simple to use, high-quality Invoice print. Many useful features including Credit Notes.

▷ **Purchase Ledger:** Full updating of suppliers' accounts. Creditors' Schedule, Remittance Advices, VAT Summary, Daybooks, Invoices, Credit Notes, Payments and Journals.

Software For All Business Programs are widely available at reputable Commodore Dealers throughout the country. But if you have any difficulty obtaining them, please contact us direct and we'll be pleased to advise you.

* £30 on disk, £20 on cassette. Prices exclusive of VAT.

**SOFTWARE
FOR ALL**

SOFTWARE FOR ALL

72 North Street, Romford RM1 1DA
Telephone 0708 60725 Dealer enquiries welcome.

Vic Key Programmer

by Jonathon Reynolds

```

0 REM *** KEY PROGRAMMER ***
1 REM (C)1983 JONATHON REYNOLDS
10 POKE56,28
11 POKE55,212
12 CLR
13 PRINT"*****RUNNING"
14 DATA7380
15 DATA20,F9,C3,A2,00
16 DATABD,00,02,C9,31
17 DATAD0,05,A9,A0,4C
18 DATA27,1D,C9,32,D0
19 DATA05,A9,B3,4C,27
20 DATA1D,C9,33,D0,05
21 DATAA9,BE,4C,27,1D
22 DATAC9,34,D0,05,A9
23 DATAC9,4C,27,1D,C9
24 DATA35,D0,05,A9,D4
25 DATA4C,27,1D,C9,36
26 DATAD0,05,A9,DF,4C
27 DATA27,1D,C9,37,D0
28 DATA05,A9,EA,4C,27
29 DATA1D,C9,38,D0,05
30 DATAA9,F5,4C,27,1D
31 DATA4C,D4,1C,0D,30
32 DATA1D,A2,00,0D,01
33 DATA02,9D,A8,1D,E8
34 DATAE0,0A,D0,F5,60
35 DATA78,A9,45,0D,14
36 DATA03,A9,1D,0D,15
37 DATA03,58,60,A5,D7
38 DATAC9,85,D0,05,A9
39 DATAA8,4C,92,1D,C9
40 DATA86,D0,05,A9,BE
41 DATA4C,92,1D,C9,87
42 DATAD0,05,A9,D4,4C
43 DATA92,1D,C9,88,D0
44 DATA05,A9,EA,4C,92
45 DATA1D,C9,89,D0,05
46 DATAA9,B3,4C,92,1D
47 DATAC9,8A,D0,05,A9
48 DATAC9,4C,92,1D,C9
49 DATA8B,D0,05,A9,DF
50 DATA4C,92,1D,C9,8C
51 DATAD0,05,A9,F5,4C
52 DATA92,1D,4C,BF,EA
53 DATA8D,98,1D,A2,00
54 DATABD,A8,1D,C9,00
55 DATAF0,07,20,D2,FF
56 DATAE8,4C,97,1D,4C
57 DATABF,EA,***,**
58 FORI=7592TO7679
59 POKEI,0
60 NEXT
61 READL
62 READA$
63 C=LEN(A$)
64 IFA$="***"THEN74
65 IFC<10RC>2THEN73
66 A=ASC(A$)-48
67 B=ASC(RIGHT$(A$,1))-48
68 N=B+7*(B>9)-(C=2)*(16*(A+7*(A>9)))
69 IFN<00RN>255THEN73
70 POKEL,N
71 L=L+1
72 GOTO62
73 PRINT"BYTE"L"II="A$"/ "?":END
74 PRINT"*****TASK COMPLETED.*"
75 PRINT" SYS 7480 TO START."
76 PRINT" SYS 7380 TO PROG.*"
77 PRINT"FORMAT:X"
78 PRINT"? 2PRINT"
79 PRINT,,"DONT WORRY IF YOU GET A 'SYNTAX ERROR'."
80 END

```

We've had a number of requests for a program or routine that allows you to allocate text strings to particular function keys. Well, Jonathon Reynolds has obliged with this handy little number for a Vic with any expansion.

When you RUN it, the machine code is loaded into a chunk of memory at the top of Basic. SYS 7380 lets you define the function keys one by one, using the key number followed without a space by the text you want to appear when that key is subsequently pressed. You can assign up to ten characters to each of the eight function keys - enter any more and the Vic will ignore the remainder. (You can't try for four more function keys by using the CBM key as a second shift.)

Thereafter you SYS 7480 - and voila! Pressing a function key puts your assigned text on to the screen. Very useful for common Basic keywords, of course, and easy enough to incorporate into a program as a routine.

How we reproduce listings

We usually put our listings for Viduals and other programs through a code conversion program that replaces the hieroglyphic Commodore colour and screen control symbols with a more meaningful set of commands.

When you see...	It means ...	And you ...
[CUP]	cursor up	press the 'cursor up' key
[CUD]	cursor down	press the 'cursor down' key
[CUL]	cursor left	press the 'cursor left' key
[CUR]	cursor right	press the 'cursor right' key
[HOM]	cursor to the top lefthand corner	press the HOME key
[CLR]	clear	press the CLR key
[INS]	insert	press the INSErt key
[BLK]	change to black	press the BLK key (shifted 1)
[WHT]	change to white	press the WHT key (shifted 2)
[RED]	change to red	press the RED key (shifted 3)
[CYN]	change to cyan	press the CYN key (shifted 4)
[PUR]	change to purple	press the PUR key (shifted 5)
[GRN]	change to green	press the GRN key (shifted 6)
[BLU]	change to blue	press the BLU key (shifted 7)
[YEL]	change to yellow	press the YEL key (shifted 8)
[RVS]	reverse on	press the RVS ON key (shifted 9)
[RVO]	reverse off	press the RVS OFF key (shifted 0)
[SPC]	space	press the space bar
X followed by a number		repeat the specified number of times

THE NEW GAME YOU WOULDN'T
LET YOUR
GRANNY PLAY

BLAGGER

THE OUTSTANDING GAME OF 1984 FOR COMMODORE 64

Alligata presents a superb range of software products that are designed specially for you. Games that cleverly combine full machine code and high resolution, full colour graphics to create hours of fun and excitement. And utilities that have been developed to open new doors and help get the best from your Commodore 64 micro. If it's to be outstanding quality and amazing value for money then Alligata has to be your choice.

Send a stamped addressed envelope for our full colour catalogue which gives details of the complete range.

**WRITE OR PHONE
YOUR ORDER TODAY!**

also available from all
good software stockists.



Follow the exploits of Roger the Dodger, master burglar, through numerous buildings – robbing safe after safe, avoiding the many obstructions and alarm systems, watching out for the nasty night watchmen in his search for the ultimate loot. Completion of each screen is rewarded by a progression to the next level in a seemingly endless pattern of banks, shops and houses.

**30 individual
screens to test
even the most
skilful of players.**

ALSO AVAILABLE

C04 SQUASH A FROG £7.95

Cross a motorway of fast moving traffic. Traverse the rapids teeming with frog eating snakes, alligators and submerging turtles. Can you get him home? Or is it just Ugh! Splatt!

C02 BRANDS £7.95

Test your skill on the Grand Prix track. Accelerating to breathless speeds can you overtake? Can you face the danger of night driving as the roads get narrower?

C01 BALLOON RESCUE £7.95

Fuel level low. Time running out. Collect fresh fuel to stay in the air or plunge to certain agonising death.

C03 DAMSEL IN DISTRESS £7.95

Menacing man-eating spiders and dreadful apparitions. Weakened by poison you must climb the battlements and rescue the princess who holds your antidote.



Capture the soul of each human intruder as he seeks to set free one of the poor bodies you've already banished to the limbo of the living dead. Watch out for the ghost eating bats and snakes lurking in the shadows.



A really fast implementation of the splendid 'centipede.' Spiders, mushrooms, dragonflies, wiggly earwigs and Brian, the mushroom poisoning snail.



Find the lost tomb deep in the Amazon forest. Experience heart-stopping drama... will you ever get there? Every location has a full graphic picture.



Killer bats in the first wave, a myriad of asteroid discs in the second. The third wave?!... the faster your reflexes, the more deadly the challenge.

Despatch is normally made on receipt of order and should reach you within 7 days.

INDICATE PROGRAMS REQUIRED

C09 ☐ C07 ☐ C08 ☐ C05 ☐ C06 ☐ C04 ☐ C02 ☐ C01 ☐ C03 ☐

I enclose cheque/PO* for £+ Charge my Access/Visa £+ _____

Card No. _____ Signature _____

Name _____

Address _____

*payable to Superior Systems Ltd., 178 West Street, Sheffield S1 4ET.
allow 75p for post and packaging.



Alligata Software Ltd. 178 West Street,
Sheffield S1 4ET. Tel: (0742) 755005

THE BIG ONE

Win £1,000 worth of extras
for your Vic or 64!

PART TWO

50
runners-up
prizes

The main prize:

A printer with paper and spare ribbons ... a disk drive with ten disks for it ... a word processing package ... a database package ... a spreadsheet calculator package ... a dustcover for the computer ... a lightpen ... a joystick ... the Programmer's Reference Guide for your computer ... the best of the users' books that have been published independently ... a whole collection of games on cartridge and tapes ... programmer's aids to simplify programming ... colour and graphics editors ... ten blank cassettes ... a Commodore User sweatshirt ... and more!

For the runners up:

- ★ Five Second Prizes of a free subscription, a Commodore User tee-shirt, and a Commodore User binder for your magazines
- ★ Ten Third prizes of Commodore User sweatshirts
- ★ 35 Fourth prizes of Commodore User tee-shirts

How to enter:

The £1,000 Competition runs in three parts, and you'll need correct answers to all three to stand a chance. You will also need the cut-off coupon from the bottom of the Competition Page: all the entries **MUST** be accompanied by the coupons and the Entry Form that we'll have on the third and last Competition Page in April. So don't lose this issue!

Part Two appears below. Put your answers on a separate sheet of paper, cut out the coupon, and keep the two items somewhere safe. **Part One** was in the February issue; **Part Three** and the Entry Form appear in April.

PART TWO: THE £1,000 CREATIONS

This section of the Competition is really easy. All you have to do is describe **THREE** game scenarios – in other words, come up with three interesting games for the Vic or 64 and describe what would (or could) happen.

You should always specify the hardware that would be needed – Vic or 64, joysticks, whatever. But keep it reasonable; the winning entries will be games that could be programmed and could be used by most readers.

Each entry will be rated by us on the following criteria:

- A how original is the idea?
- B how interesting would the game be?
- C is enough detail included in the description?
- D how feasible would it be to program?

Note that we don't want you to write the programs, just to describe the games. But you will have to be aware of some of the technical constraints – like will your scenario fit into memory?



£1,000 COMPETITION

PART TWO



Pilot Software City



TRY BEFORE YOU BUY!

**32 Rathbone Place
London W1**

Tel: 01-636 2666

**OPEN:
10-7 Mon to Fri - 10-5 Saturday.**



- Books, Mags & Supplies
- Software Demos
- Computer-time rental
- Business Software
- Data Base Design
- Accessories
- Furniture
- Much Much more!

Caterpillar



by Pauli Terho



```

1 DATA126,255,255,255,255,255,255,126
2 DATA152,252,62,126,127,127,127,63
3 DATA25,127,124,254,254,254,254,108
4 DATA25,63,124,126,254,254,254,252
5 DATA152,254,62,127,127,127,62,54
6 DATA231,60,126,153,221,221,255,126
7 DATA231,60,126,153,189,189,255,126
8 DATA231,60,126,153,187,187,255,126
9 DATA126,255,189,189,153,126,60,231
10 POKE 55,142: POKE 56,29: POKE 36879,8: POKE 36865,255: POKE 37148,0: GOTO600
20 FORX=1TO22: PRINT "[RVS][PUR]-[BLU]"; : NEXT: RETURN
21 CLR: POKE 36967,255: A%(2)=1: A%(0)=-1: B%(3)=-1: B%(1)=1: DEFFNA(X)=7680+X+2
2*X
25 DEFFNB(B)=7680+A+22*B: E=5: PRINT "[CLR][BLK][RVS]-----SCORE 0-----"
30 DEFFNC(C)=7680+C+22*D: A=10: B=1: R=1: POKE 7712,52: POKE 8020,55: POKE 38740
,12-E
35 O=254: X=10: Y=1: C=-1: POKE 36879,26: GOSUB800: POKE 198,0
40 GETI$: IFI$=""THEN120
60 W=A%(I$): R=R+(W=133)-(W=95): R=R+4*(R=4)-4*(R=0): POKE FNA(X),R+59
120 Q=Q+1: IFQ=5THENQ=0: O=RND(0)*76+178: GOTO190
130 T=PEEK(FNB(B))-51: POKE FNB(B),50: B=B+B%(T): A=A+A%(T)
190 POKE 36877,0-Q*5: X=X+A%(R): Y=Y+B%(R): POKE 36877,0: IFX>210RX<0ORY>220RY<1
THEN300
230 IFPEEK(FNA(X))>50THEN250
240 POKE FNA(X),59+R: POKE 38720+FNA(X),0: POKE FNC(C),51+R: POKE 38720+FNC(C),E
: C=X: D=Y: GOTO40
250 T=PEEK(FNA(X)): IFT<55THEN300
260 W=INT(RND(1)*483)+22: IFPEEK(7680+W)>50THEN260
263 POKE 7680+W,55+RND(0)*4: POKE 38400+W,12-E: FORT=250TO201STEP-7: POKE 36876,
T: NEXT
264 POKE 36876,0: P=P+5+U: IFP=50*21UTHEN700
265 PRINT "[HOM][RVS]",P: GOTO240
300 R=PEEK(251)*9+PEEK(252): IFP>RTHENR=INT(P/9): POKE 251,R: POKE 252,P-R*9: R=
P
305 FORW=0TO15: POKE 36874,202-W*5: POKE 36878,15-W: POKE 36865,37+(1ANDW): NEXT
: POKE 36878,2
310 FORA=0TO5: FORB=0TO3: FORW=1TO10+A: POKE 36877,254-A*3-W: NEXT: POKE 36879,2
6+B
320 POKE FNC(C),59+B+(B=3)*2: NEXT: POKE FNC(C),60: NEXT: FORW=100TO127: POKE 36
877,127+W: NEXT
330 FORW=0TO127: POKE 36877,254-W: NEXT: PRINT "[HOM][RVS]-SCORE"; -P"[CUL]---[H
OM]", "-HI-SC"; -R
400 FORW=1TO3: FORX=1TO1000: IFPEEK(203)=63THENCLR: GOTO21
500 NEXT: POKE 214,19: PRINT "[CUD][RVS][CUR]PRESS[CUR][F7][CUR]TO[CUR]START": N
EXT: GOTO620
600 FORX=0TO11: W=W+1: IFW<5THENRESTORE
610 FORY=0TO7: READA: POKE 7576+Y+X*8,A: NEXT: NEXT: FORY=0TO7: READA: POKE 828+
Y,A: NEXT
620 FORX=7567TO7567+8: POKE X,0: NEXT: X=RND(-TI): CLR: POKE 36869,255: POKE 368
65,38: GOSUB900
630 PRINT "[CLR][BLK][RVS][CUD] INSTRUCTIONS:
635 GOSUB20: PRINT "[ORN][RVO][CUR]7[CUR][BLU][RVS]... 5 POINTS+BONUS "; : GOSUB
20: PRINT " ADVANCE BONUS AFTER
640 PRINT "[RVS] 50,100,200 & 400 PTS "; : GOSUB20: PRINT " WHEN THE BONUS
645 PRINT "[RVS] IS ADVANCED,IT GIVES YOU 1 POINT FOR EACH"," PART OF THE WORM"
: GOSUB20
650 PRINT " THE WORM GROWS[CUD]WITH[CUR][CUR][CUR][CUR]CONSTANT SPEED": GOSUB20:
PRINT " THE HIGHEST SCORE
655 PRINT "[RVS] TODAY IS"PEEK(251)*9+PEEK(252)"POINTS": GOSUB20
656 PRINT "[PUR]USE THESE KEYS TO PLAY:[CUR][CUR][CUR][CUR][CUR][BLK][+][IC
Y][CUD][CUL]-[CUP][CUL][CUL][CUL][+][BLK][F1]
657 PRINT "[CUD][RVS] [BLK]HIT [F7] TO START[HOM]"
660 FORT=1TO3000: IFPEEK(197)=63THEN21
670 NEXT: GOSUB800: GOTO660
700 POKE FNA(X),50: POKE 38400+W,E: P=50*21U
710 PRINT "[HOM][RVS][CUR][CUR][CUR][CUR][CUR][CUR]BONUS"P: U=U+1: O=PEEK(198):
GOSUB800: POKE FNC(C),60: E=12-E: IFU>3THENE=6
720 FORW=1TO5: FORZ=0TO3: POKE 36879,24+U+Z: FORT=1TO70: NEXT: NEXT: NEXT
730 W=A: Z=B
740 T=PEEK(FNB(B))-51: IFT>7THEN750
741 POKE 38720+FNB(B),E: B=B+B%(T): A=A+A%(T): FORT=0TO20STEP2: POKE 36876,220-L
: NEXT: P=P+1
742 PRINT "[HOM][RVS]",P: GOTO740
750 FORT=200TO127STEP-1: POKE 36876,T: NEXT: POKE FNB(B),59+R: FORT=200TO254: FO
R=0TO5
755 POKE 36876,T-L: NEXT: NEXT
760 POKE 36876,0: A=W: B=Z: POKE 198,1: PRINT "[HOM][RVS][CUR][CUR][CUR][CUR][CU
R][CUR]SCORE": POKE 198,0: O=254: GOTO240
800 W=RND(-PEEK(828+INT(RND(0)*8))) : FORW=1TO7: T(W)=INT(RND(1)*100)+140: NEXT:
FORW=0TO1

```

Don't confuse this game for the Vic with the arcade quest of the same name - it's very different. You have to guide the amiable multipied to food in the form of leaves; and a new leaf appears only after one has been eaten.

But as you move along the caterpillar gets larger; and as the caterpillar gains weight, it becomes more and more difficult to stop the thing eating itself (well, no-one has ever claimed any great degree of intelligence for the average caterpillar) or from bumping into the sides of the screen.

The ket controls are frankly awkward and could easily be improved. But even as it stands this is a good game ...



A great line up of 17 NEW titles... direct from CANADA

FOR ZX81, SPECTRUM, VIC 20, C64, ATARI

Just run your eyes over these new titles now available through "SOFTCHOICE LTD" the U.K. subsidiary of the well-known Canadian Software House HOWARD GLADSTONE ELECTRONICS INC. Purchase with confidence superb EDUCATIONAL, UTILITY and GAMES SOFTWARE!

EXCITING NEW GAMES FOR FAMILY FUN AND LEARNING FOR ZX81 and SPECTRUM



adding
18x18 game-by
16K 1/81000-16K
ZX81 16K
ADDITION MACHINE
Additional facts for
ages 5-9 yrs.
For Spectrum,
Cassette £6.95



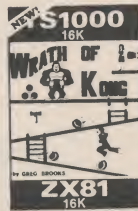
TAKE AWAY ZOO
Subtraction facts for
ages 5-9 yrs.
For Spectrum,
Cassette £6.95



TINY LOGO
The key to
understanding and
learning real
computer
programming!
For ZX81.
Cassette £5.95



SIGNALS & CODE
See and hear the
letters and numbers
in order! On demand,
randomly, in
messages, in score
tests! For ZX81.
Cassette £4.95



WRATH OF KONG
Only great agility and
cunning will outwit
Kong - Climb quickly
or Jane will perish!
For ZX81 &
Spectrum.
Cassette £5.95



SPEED SNAKE
Slither around mazes,
10 different mazes to
challenge your skill!
Deadly!
For ZX81.
Cassette £4.95



MR MUNCHEE
Race through 3
mazes, avoid the
Trolls! Exciting action
with graphics!
For ZX81.
Cassette £4.95

CHILDRENS' & HOME EDUCATIONAL GAMES for the VIC 20, COMMODORE 64, ATARI 400/800 DISKS Only, at £14.95 each incl.



THE ALPHABET FACTORY
Two arcade-style
games that teach
children the alphabet!
Ages 3-8 years.



MATCH UP
These high interest
games make learning
to read fun!
Ages 3-10 years.



THE WORD BIRD
Three different games
each designed to
increase a child's
reading vocabulary!
Ages 3-10 years.



TIME ZONE
Two activity games
that develop the
needed language
skills for successful
reading!
Ages 3-10 years.

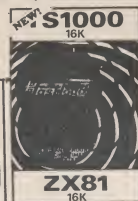


BRIDGE
For all the family.
Sharpen your skills
with the computer's
bidding!
Cassette £9.50

GREAT UTILITY AND BUSINESS SOFTWARE for ZX81, SPECTRUM, VIC 20, COMMODORE 64, ATARI



FASTWORD
Fast, versatile and
complete word processing
package by Dr Pearson.
For ZX81.
Cassette £7.50



FASTLOAD
Learn any
programme up to 6
times faster than
normal! By Dr G.
Pearson.
For ZX81.
Cassette £7.50



DIET
Gain control over
your eating
patterns. By Dr M.
Minsky.
For ZX81 &
Spectrum.
Cassette £5.95



CALC-PRO
A great tool for home
or business!
For VIC 20, C64, Atari.
Cassette £9.50 + Disk
£14.95



GRAPH-IT
An easy to use tool
to produce
graphical displays.
For VIC 20, Atari.
Cassette £9.50

HOW TO ORDER. BY TELEPHONE (01) 431 2494
If you are a Barclaycard or Access holder, please
telephone and give your Card No., Name, Address
and item required for immediate despatch.

BY POST. To purchase any of the items listed above,
simply fill in the coupon below, write your Name,
Address, enclose your cheque or P.O. made
payable to: SOFTCHOICE LTD and post to us.

Post to: SOFTCHOICE LTD.
52 PLATTS LANE, LONDON NW3 7NT

Please send me the following items:
(Use separate sheet if space allocated not sufficient)

NO.	TITLE	TOTAL COST
REQ.		
		£
		£
		£

I enclose my cheque/P.O. for £

I prefer to pay by ACCESS/BARCLAYCARD
(Delete which ever is not applicable)

Card No.
Signature
Name
Address

Please allow 7 to 14 days for delivery.
Card holders' address must be the same as coupon.

CU 3/89

Good Game? turn it into cash!

If you have written any new computer games then get in touch with Cascade Games for a FREE evaluation. We turn your ideas into cash by buying or paying you royalties for games programs written in basic/machine code for most makes of micro. This could be your big chance. You've got nothing to lose and everything to gain.
All games will be returned,
if you choose not to accept
our offer.



EVALUATION FORM

Author's name

Address

Computer

Game names

Date

Cascade Games Ltd.,
Suite 4, 1-3 Haywra Crescent, Harrogate,
North Yorkshire, HG1 5BG. England.
Telephone: (0423) 504526.

Cut out and enclose with cassette.

CU

Caterpillar



```
801 FORZ=1T07: POKE 36876,T(Z): POKE 36875,T(Z): FORT=15T00STEP-1: POKE 36878,T:
NEXT: NEXT: NEXT
802 POKE 36876,0: POKE 36875,0: POKE 36878,15: RETURN
803 DATA50,70,81,82,86,178,174,247
900 POKE 36879,28: PRINT "[CLR]": FORT=1T0200: W=INT(RND(0)*493)+22
930 POKE 7680+W,55+RND(1)*4: POKE 38400+W,RND(1)*6+2: NEXT
940 PRINT "[CUR][CUR][CUR][CUR][CUR][CUR][CUR][CUR][CUR][CUR][GRN]33333333
3333","[CUR][CUR][CUR][CUR][BLK][RVS] CATERPILLAR[RVO][GRN]3","[CUR][CUR][CUR][C
UR]33333333333333"
950 PRINT "[CUR][CUR][CUR][CUR][BLK][RVS]BY PAULI.T. ","[CUR][CUR][CUR][CUR][GR
N][RVO]3[RVS][BLK]SWEDEN 1983 ","[CUR][CUR][CUR][CUR][RVO][GRN]333333333333[BLK]
<
980 POKE 36877,255: FORX=15T00STEP-1: FORV=1T030
990 POKE 36878,X+X/2*INT(RND(1)>.7): NEXT
999 NEXT: POKE 36874,0: POKE 36877,0: FORT=1T05000: NEXT: RETURN
4167 REM*** "#####-----[SPC5]CATERPILLAR[SPC10]BY PAULI TER
HO
8923 REM*** "#####[SPC5]SWEDEN 1983
```



Beekeeper

by B M Phillips

One for the sweet tooth – in this Vic game for keyboard or joystick you're the eponymous beekeeper with a garden all to yourself. Your job is to collect honey from the beehives and fill your honeypot.

Problem is the bees. They aren't standing (flying?) still for the blatant theft of their hard work; and they have stingers...

Evade the bees, fill the honeypot, and you can go on to the next skill level.

*** BEEKEEPER1 ***

```
10 POKE 36879,13
20 PRINT "[CLR][CUR][CUR][CUR][CUR][CUR][CUR][CUR]"
30 PRINT "[CUR][CUR][CUR][WHT][RVS][SPC16]"
40 PRINT "[CUR][CUR][CUR][RVS] PLEASE WAIT "
50 PRINT "[CUR][CUR][CUR][RVS][SPC16]"
60 POKE 52,28: POKE 56,28: CLR
70 FORI=7168T07679: POKE I,PEEK(I+25600): NEXT
80 FORC=7432T07511: READA: POKE C,A: NEXT
90 DATA0,0,16,48,12,8,0,0
100 DATA0,0,8,12,48,16,0,0
110 DATA16,56,16,124,146,40,40,108
120 DATA16,56,146,124,16,40,68,130
130 DATA40,124,124,124,56,16,16,16
140 DATA16,56,124,124,56,16,16,16
150 DATA16,56,60,92,116,92,56,16
160 DATA0,126,126,126,126,126,126,0
170 DATA16,0,56,0,124,0,254,254
180 DATA126,126,24,60,126,126,126,126
190 PRINT "[CLR][WHT][CUR][CUR][CUR][CUR][CUR][CUR]BEEKEEPER"
200 PRINT "[VEL][CUR][CUR]YOU ARE A BEEKEEPER AND YOUR JOB IS TO[SPC4]COLLECT
THE HONEY "
210 PRINT "[CUR]FROM THE HIVES AND[SPC4]BRING IT BACK TO THE HONEY POT,"
220 PRINT "[CUR][CUR][GRN]ONE PROBLEM-THE BEES"
230 PRINT "[CUR].....THEY STING!"
240 PRINT "[RED][CUR][CUR][RVS]PRESS SHIFT/RUN TO "
250 PRINT "[CUR][RVS]LOAD MAIN PROGRAM [WHT]"
```

*** BEEKEEPER2 ***

```
10 DIMJS(2,2)
20 POKE 36879,200
30 PRINT "[CLR][CUR][CUR][CUR][CUR][CUR][CUR][BLK]BEEKEEPER"
40 PRINT "[CUR][CUR][CUR][CUR][CUR][CUR][CUR][CUR][CUR][RVS][BLU]SELEC
T"
50 PRINT "[CUR][CUR][CUR][CUR][RED][RVS][K][RVO]KEYBOARD(S X . /)"
60 PRINT "[CUR][CUR][CUR][RVS][J][RVO]JOYSTICK"
70 GETG$: IFG$="J"ORG$="K"THEN90
80 GOTO70
90 G=1: IFG$="J"THENG=2
100 POKE 36869,255
110 P1=8164: P2=38884: SC=0: T=0: HN=0
120 FORI=1T08: BX(I)=33: NEXTI: FORI=1T08STEP2: BX(I)=34: NEXTI
130 M1=35: M2=36: F=45: S2=36875: V=36878: S1=36877: LV=1: BS=4: LE=0
140 GOSUB680: GOSUB700
150 POKE 37139,0: DD=37154: PA=37137: PB=37152
160 FORI=0T02: FORJ=0T02: READJS(J,1): NEXTJ,I
170 POKE V,3: POKE S1,220
180 GOTO480
190 POKE DD,127: J3=-((PEEK(PB)AND128)=0): POKE DD,255
200 P=PEEK(PA): J1=-((PAND8)=0): J2=-((PAND16)=0): J0=-((PAND4)=0)
210 DX=J3+J2: DY=-((J0+J1): RETURN
220 P=PEEK(197): IFP=30THENDX=1
230 IFP=37THENDX=-1
240 IFP=41THENDY=1
250 IFP=26THENDY=-1
260 RETURN
```



K-tel

NEW GAMES WANTED!

And if YOU'RE game, this could be just the opportunity you've been looking for!

Follow the success of our initial launch into the computer software market with the K-tel DOUBLESIDER range, we're now looking for exciting new games to continue the series. And this is where you come in.

If you've got a great games program for either the Commodore 64, Vic 20 or Sinclair Spectrum, let's hear all about it. What we want is high quality, nifty graphics, original ideas and good, old fashioned fun.

So you think that your game might fit the bill? Then send a cassette copy with details to Mike Dixon, K-tel International, 620 Western Avenue, London W3 0TU straightaway. Or telephone him on 01 992 8055.



And remember programmers . . . use your computer for fun. And profit.

BYTEWELL

IMPORTANT ANNOUNCEMENT FROM BYTEWELL

If you have difficulty in obtaining a C2N cassette deck **Don't panic**. We have arranged with Microtech of Barry to supply us with an interface to allow you to use any domestic tape recorder to load and save programs on your Vic-20 or CBM64.

Compatible tape decks also available.

For full details please write enclosing stamped addressed envelope to:

BYTEWELL
203 Court Road, Barry,
S. Glamorgan, CF6 7EW.

PEAKSOFT ANNOUNCE THE LAUNCH OF THE BOSS

The most complete and compelling football management game ever produced for any home micro - and we should know!*

4 divisions
European Cup
Promotion
Suspensions
Name team
Change formation
Transfers
Reserve squad
Minute-by-minute
goal facts
Weekly league tables
Named scorers
9 skill levels
13 screens

FA Cup
Cup-Winners' Cup
Relegation
Injuries
Name players
Substitutes
Bank loans
Save game tape
Fixture list
Weekly results
Spy on other clubs
Board-room coups
7 page tactics book
Results-to-date table

And a 1 year written guarantee

£8.95 including post and packing to any address, anywhere. How to order: Clip the coupon, or just note your name, address, computer and program required on the back of your cheque. Same day despatch. We pay post both ways.

Dealers: Check with your distributor, or contact us at 0283 44904 (9am-9pm). New colour poster available.

PEAKSOFT
FREEPOST
BURTON-ON-TRENT
DE15 9BR

*Peaksoft's first football management game, Champions! for the Dragon 32, was a Top 10 hit for 9 months!

I enclose a cheque or PO for £8.95. Please rush me The Boss for my CBM 64 by 1st class post

Name.....

Address.....

CU



YOUR VIC-20 SOFTWARE
CASSETTE HIRE ONLY £1.40 (inc P&P)
per fortnight

CARTRIDGE HIRE ONLY £1.50 (inc P&P)
per fortnight

MEMBERSHIP FEE ONLY £10.00 FOR 2 YEARS

Send Membership Fee on FULL money back approval or large S.A.E. for further details.

To: VIC-20 USERS SOFTWARE LIBRARY
(Dept C.U.)
11 NEWARK ROAD,
BREADSALL ESTATE
DERBY DE2 4DJ.

The 64 ought to be an excellent computer for games – and fortunately some suppliers are indeed taking advantage of that. Others aren't. Here's this month's crop of reviews.

How do we assess games? Basically we play them – which may sound obvious, except that all the reviewers have seen so many games that they can apply a bit of comparative experience to the evaluation.

We rate games out of five for each of four criteria. **Presentation** means how well the thing is packaged and how good it looks on the screen: dull graphics and poor sound get marked down here. **Skill level** refers to how much skill (of whatever kind) is required to play the game – so if pure chance is involved, the game gets a low mark. (But don't dismiss it on that: some 'chance' games are great fun.) **Interest** is an answer to how well the game did at maintaining the reviewer's interest in it. And **Value for Money** is obvious enough: it's our overall conclusion about how it compares with other games and whether we'd buy it ourselves.

COSMIC SPLIT

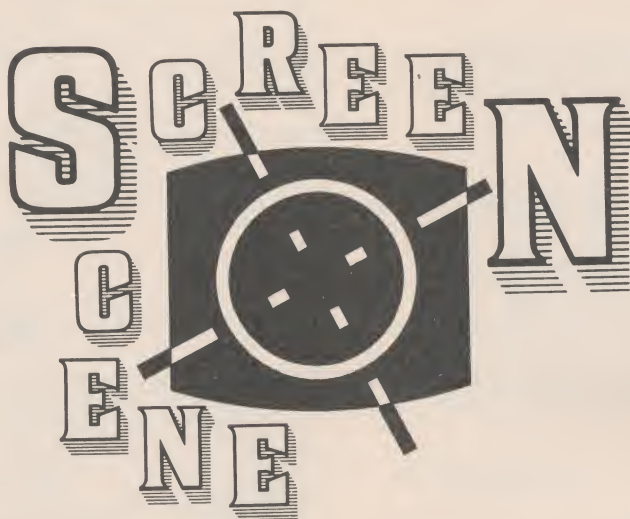
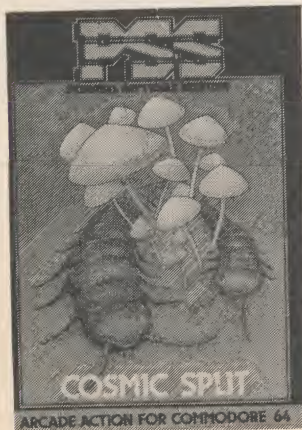
Joystick only
Price £7.95

An astronomical title for an honest, down to earth game of Centipede. Two unusual features are the rotating segments of your creepy crawly antagonist and a whirling fireball, both well animated. Snakes, spiders and fleas complete the menagerie your laser cannon has to destroy, amidst the green and pink fungi.

A faithful, competent rendering of a popular scenario: colourful, with all the action applicable to the plot. The grey background is a happy choice, being both restful to the eye and setting off the characters well. Smooth graphics with unobtrusive sound effects make this a program worth checking out, especially if you like luxury presentation wallets. The clear score table is self contained in a section to the right of the action. LS

PSS

Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■



DEPTH CHARGE

Commodore 64
keyboard
Price £4.99

In this cassette-based game by Commodore you are the Commander of a battleship which can be moved left or right across the top of the screen (the ocean surface). Enemy submarines move at different levels beneath the ocean, releasing deadly mines (?) which float to the surface to destroy your ship. These must be avoided by rapid evolutions or by dropping depth charges to destroy them.

Up to five depth charges can descend at any time, and you score points by destroying mines or submarines. The main object however is to survive for a period of 90 seconds: points are scored for every second you survive.

This game is not easy: after an hour of playing on the lowest level, instances of surviving the full period of time were very rare. But it didn't hold our interest for long: graphics are mediocre for the 64 and the poor use of colour made it difficult to distinguish between depth

charges and mines. (We suspect that, as for the Vic, Commodore's quality games are on cartridge – where at under £10 each they represent very good value for money.) WG/PR

Commodore Business Machines,
675 Ajax Avenue, Trading Estate,
Slough, Berks.

Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■

GALAXY

Keyboard or Joystick
Price £7.95

Bully for Anirog! Never having succeeded in finding a half-decent version of Galaxians for my Vic-20, my patience (and yours?) has been rewarded with this winner for the 64. After the mode has been selected, one or two players, the program presents a black screen, with a separate section for all the necessary read-outs to the left. Before your very eyes the red and blue fighters, joined by purple mother ships form an attacking formation. Not only do they swerve and swoop but bank and veer and



whatever else galactic aliens are prone to do; full marks for sprite aided acrobatics. Of course the little blighters drop bombs whilst the mother ships also display a tendency to sally forth with tractor beams. Special screens are included, with no bombs to avoid just hurtling formations of the enemy to zap for bonus points. Competent sonics accompany the battle, but the action is engrossing enough to need hardly more than splats! One small whine: not to keen on small blue objects on black backgrounds; Otherwise A. With 100 stages it should be adored by all space fans. L

Anirog

Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■

HOVER BOVVER

Joystick only
Price £7.50

This latest masterpiece from the Llamasoft stable brings you not only arcade speed and action, but also graphics, animation and sound which demonstrate the magnificent potential of the CBM 64.

Using the joystick you steer Go

don Bennet and his borrowed air-mo lawnmower to mow your way through the garden, avoiding the neighbour who is trying to retrieve it. You must also avoid the flower beds or the infuriated gardener will start chasing you. Your dog is initially a help and by using the joystick button, you can command him to fend off neighbours or gardeners. This is particularly useful if the mower overheats and you are forced to remain stationary until it cools down. Alas, using this facility soon exhausts the dog's obedience and eventually he gets fed up with the noise and your four legged friend becomes a hazard by attacking the mower. Gauges are provided for mower temperature, dog tolerance and dog obedience and 16 different gardens are programmed in, the first eight being pre-selectable.

This game is highly recommended - it will undoubtedly become a classic.

WG/PR

Llamasoft

Presentation: ■■■■■
Skill level: ■■■■■
Interest: ■■■■■
Value for money: ■■■■■



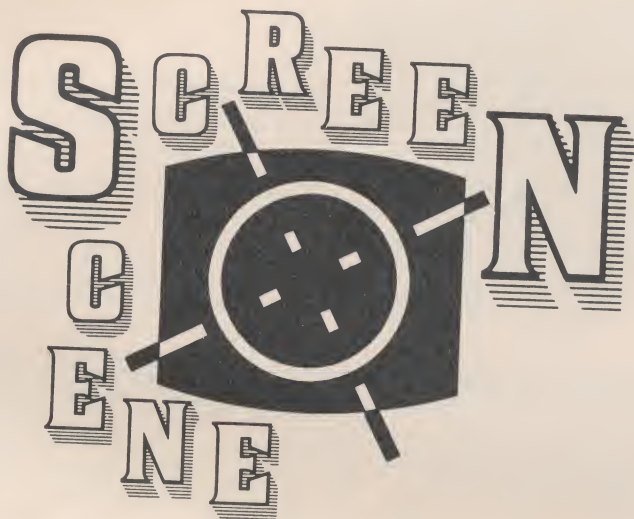
KICK-OFF
Keyboard or Joystick
Price £6.99

The granddaddy of all arcade games; played long before Space Invaders, when chips meant fried potatoes and went with everything. Yes this is table-top football complete with rods and spinning players. Well thought out, employing colour to good effect and being a brilliant simulation with all the thrills and frustrations of the original. Either play the 64 or a human opponent (preferably less experienced than yourself) but read the

explicit instructions first. Naturally good control will come only with practice so match the ball speed to your ability.

The title screen is very much part of the entertainment: a well defined crowd with appropriate music (a really good feature). Obviously effort has been put in here. Anyone looking for something "different" or fans of actual game will appreciate this quality offering. LS

Bubble Bus



Presentation: ■■■■■
Skill level: ■■■■■
Interest: ■■■■■
Value for money: ■■■■■



MEGAWARZ
Keyboard or Joystick
Price £7.50

A cultured, sophisticated space game! Your mission is to return to Earth via the six outer planets.

After despatching alien forces, which on the evidence of the first three stages are both skillfully designed and delicately defined, you get to fly to the next world on your journey. The illusion of traversing distance is achieved by diminishing the size of the rocket in flight as you head towards the next globe. It's not too easy to manage your craft in battle mode: once you thrust off tight control is essential. The enemy, three at a time, pulsate through the 64's colour range and

the sprite graphics on the way to your destination; Earth and the Hall of Fame.

LS

Paramount

Presentation: ■■■■■
Skill level: ■■■■■
Interest: ■■■■■
Value for money: ■■■■■

SPRITE MAN
Commodore 64
keyboard
Price £7.00

Some CBM 64 games lack imagination and are just carbon copies of much tried and tested arcade games. This probably satisfies some people; but if you are looking for originality, don't buy Sprite Man - yet another version of 'Pac-Man' complete with a muncher in a maze with dots, energy pills, fruits, four ghosts.

It is difficult to think of anything new to say about such an arcade classic. The graphics and colour are not bad; but they don't fully exploit the potential of the 64. The muncher moves exceptionally fast and great difficulty was experienced in negotiating corners and junctions on the maze, which degraded the playability of the game. In summary? A just-about-adequate version of the arcade game. But in our opinion, not a patch on the (recently withdrawn) Jelly Monsters cartridge for the Vic.

WG/PR

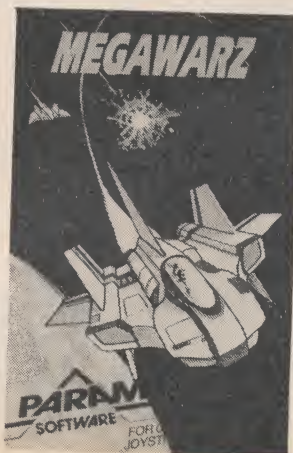
Interceptor Mikro, Lindon House, The Green, Tadley, Hants.

Presentation: ■■■■■
Skill level: ■■■■■
Interest: ■■■■■
Value for money: ■■■■■

SKI-ER 64
Commodore 64
Joystick or keyboard
Price £5.99

This is one of those beat-the-clock games that gets everybody pushing in for their turn. It works just like real slalom skiing; you manipulate your skier around the gates, trying to clock up the fastest time. Hitting a gate gets you disqualified immediately. But you can get away with knocking a post. You stop the clock by shooting through the finish line - and then it's Franz Klammer's turn.

The blurb tells you there are two games: Slalom (with two



degrees of difficulty) and Alps. But Alps merely replaces gates with trees, so why bother? At least the trees really look like trees.

Both games use speed-up and slow-down keys, and you'll need them too as the speed gradually increases as you hurtle along – the keyboard seemed better than joystick for control. Most of the screen is white (not surprising really) so you may need goggles to avoid snow blindness. It's

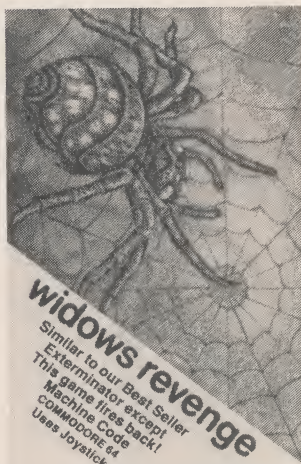


Abacus
Software

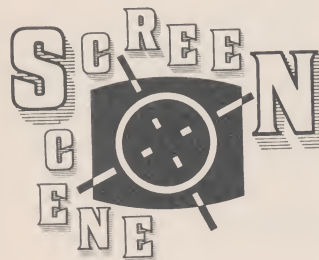
good fun; but for how long? BB

Abacus Software

Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■



widows revenge
Similar to our Best Seller
Terminator except
This game fires back!
Machine Code
COMMODORE 64
Uses Joystick



WIDOWS REVENGE

Joystick only
Price £6.99

Gather your strength while it's loading! Son of Centipede maybe; but it's a whole new ball game. Mushrooms are replaced in favour of blue eggs and dreaded white energy pods: no worm – but hoards

of black spiders marching towards your DDT spray. If they bump into a blue egg they merely change course but an energy pod causes a deadly threat to be cast downscreen. The black widow tracks across the combat zone depositing energy pods but the real star is the bat-like creature, laying blue eggs willy nilly – you can't obliterate him, merely scuttle him off for a second or so. (He also demonstrates sprite graphics rather well.)

You can leave the screen light grey or allow it to change colour after each wave. One or two player option, with more than enough to shoot at even for adept arcadians. These features added to good graphics and sonics make this a good bet for all 64 owners. Will we get a sequel? LS

Bubble Bus

Presentation: ■■■■
Skill level: ■■■■
Interest: ■■■■
Value for money: ■■■■

PERSONAL BANKING (CYB)

At last — truly useful Software for the neglected home computer user!
Developed by a computer professional for his own personal needs!

"With 16 standing orders, a joint account and two statement pages per month I used to consider my account book essential — reconciling with the bank was a real headache, so I developed CYB. Now it takes me 5 minutes a week and I know my computer is earning its keep."

CONTROL YOUR BANKING NOW. Send S.A.E. for further details or mail £19.95 for CYB with instruction (*) manual to:

ROXSOFT LIMITED

CYB (1) Dept.
166 High Street
HOUNSLOW
Middx TW3 1BU

(or phone 01-570-5783)

*Please state hardware configuration

QUALITY PROGRAMS FOR THE COMMODORE 64 BLACKJACK

- ★ 4 Packs (208 cards) in deck
- ★ 1 to 5 can play
- ★ Computer displays player's cash total after each deal
- ★ Doubling of stake and splitting of cards allowed
- ★ Even money option given on a 'Blackjack'
- ★ Program size 11K
- ★ Brilliant

Tape £6.95

FRUIT GAMBLER

- ★ Four wheels plus gamble
- ★ Special win with gamble
- ★ 10p wins 10p to £100, complete with win card
- ★ Looks like and runs like a real fruit machine
- ★ Size of program a massive 11K

Tape £6.95

SPRITE PLAN

A truly professional program enabling sprites to be made, stored and retrieved without tedious mapping or printing of data.

Dealer enquiries welcome,
prices include first post/packing, VAT,
cash or cheque with order
mail order only.

PMS (Instruments) Ltd

(Software Division),
Waldeck House,
Reform Road,
Maidenhead, SL6 8BR.

Tel: (0628) 76688

Tape £11.95

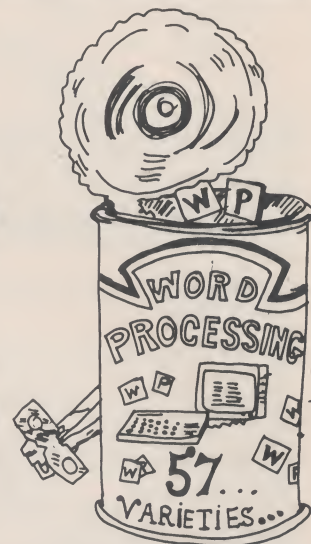
Word Processing

Word processing

Road Test

Chris Durham

Paperclip 64



Paperclip 64

This is a disk based program used in conjunction with a security 'key' (or 'dongle') which fits into one of the control ports. The program allows 829 lines of text, equivalent to just over seven pages of A4 — more than adequate since files can be linked together giving virtually unlimited length.

Functions

Paperclip is absolutely loaded with functions and it would take a magazine of its own to go into them in any detail — the manual is a massive 112 pages.

The program does not format as you type and therefore a large number of print format commands have to appear in the document. The maximum width that the document can be set to is 192 columns, but typing in on 40 columns with wraparound makes it impossible to see how the document will look until you print it. There is a 'preview' facility, but this suffers from the drawback that it doesn't scroll sideways; hence you never see the part of the document that is beyond the 40th column.

The format commands are easy enough to use. They are preceded by the 'check mark' generated by hitting the £ key. Examples are **cn1** which turns centering on (**cn0** turns it off again); **pgN** sets paging after **N** lines; **ju1** turns on right-justification.

These commands must be on a new line and must not be followed by text on the same line. As with all WP programs that format only on printing this has the effect of breaking up the document and making it look very cluttered.

Some of the embedded format commands can appear within the text; these must be preceded by the ESC (left arrow) key and perform things like **underlining** (ESC C) and **italics** (ESC i).

PET/CBM Professional Word Processor

PaperClip



Produced by BATTERIES INCLUDED

Actually editing the document is very easy. All the normal editing functions are available, plus a series of **block** commands that allow lines of text to be **moved, copied, deleted or saved**. Although these work only on whole lines there are additional 'phrase' editing commands to amend part lines as well.

A very nice feature is the use of the **Commodore key** to toggle insert mode on and off. This allows text to be inserted anywhere in a document in any quantity.

Tabs are set using the **Shift CLR** key; the tab position is shown on the second line of the screen. (The top two lines are the Status line and the Tab line respectively.) The Tab is then selected by using the **RUN/STOP** key. There are also **numeric tabs** for lining up columns of figures, set by **CTRL N**.

One drawback of using numeric tabs is that they do not recognise the fact that you can precede a figure by the \$ sign, but not by the £ sign; the latter cancels the effect of the numeric tab. Rather annoying if you work in English currency.

There is a useful 'Caps Mode', selected by hitting the **up-arrow** key. This causes all the alpha characters to be printed in upper case, but leaves the other keys unaffected; much better than using 'shift lock', which affects the whole keyboard.

Another nice feature is the ability to assign commonly-used phrases to a single key. 'Check mark'

COMMODORE USER

PRODUCTS FOR COMMODORE

SPEED UP ANY BASIC PROGRAM WITH OUR COMPILERS

Up to 40 times speed increase, reduced program size.

BASIC COMPILERS

Petspeed Compiler for 4000/8000 series £125.00

Integer Basic Compiler for 3000/4000/8000 series £75.00

CROSS-COMPILERS FOR BASIC

Portspeed: Compiles source on 8000 series to run on CBM 64 £125.00

X-64: Integer compiler compiling on 8000 series giving machine code executable on CBM 64 £125.00

B-Port: Compiles source on 8000 series to run on 700/B-128 series £450.00

X-700: Integer compiler compiling on 8000 series giving machine code executable on 700/B-128 £450.00

GIVE YOUR VIC OR 64 FULL IEEE AND RS232

Not a cartridge. Compatible with any software.

Interpod: Free-standing interface giving IEEE488 and RS232C capabilities to CBM64/VIC20 £99.95

SPECIAL OFFER

Order 5 or more Interpod and get a free Portspeed!

All prices are exclusive of VAT. There is also a small charge for post and packing. Dealer discounts are available on all products except the 700 cross-compilers.

Compilers are supplied ex-stock; Interpod supplied 7-days ex-stock.

COMMODORE SOFTWARE

Native compilers for the CBM 64 and the 700/B-128 are available only from Commodore.

Oxford Computer Systems (Software) Ltd.
Hensington Road, Woodstock, Oxford OX7 1JR, England
Telephone (0993) 812700 Telex 83147 Ref. OCSL



VISA ACCEPTED

SOFTCHIP-64

POWERFUL NEW COMMANDS FOR THE COMMODORE 64

What is Softchip? ... a Softchip is a plug-in cartridge custom-made to your specification that slots quickly and simply onto the back of your 64 giving you immediate access to powerful new commands like:

RENU	renumber all or just part of your program
FUNC	use the function keys: press F1 for 'LIST' etc.
BASIC4	all the powerful disk commands Commodore left out
MERGE	merge one program into the heart of another
SORT	sort your arrays into order at lightning speed
SEARCH	shoots through an array till it finds what you're looking for
DESIGN	get those sprites designed on the screen, not in DATA statements
VOICE, FILTER	the 64 makes great sounds
EFFECT	built-in sound effects ... explosions, helicopters, jingles
MODE	use the hi-resolution modes
DRAW, CIRCLE	draws lines, circles (coming soon in 3-D!)
SPLIT	split the screen into half-graphics, half-text

But this is only a small selection - we have over 120 different commands available now. We're on the end of 0947-604966/8 ready to help or write to us for free details at the address below. At £34.95 all inclusive for as many commands as will fit into an 8K cartridge, can you find better Value for Money?

SOFTCHIP-64 another fine product from **Whitby Computers Ltd.**
7 Chubb Hill Road, Whitby, North Yorkshire, YO21 1JU. Tel 0947-604966/8

Control Functions

CTRL X	Exit program
CTRL I	Insert multiple lines
CTRL E	Erase text or Range
CTRL L	Load text from disk
CTRL S	Save text file to disk
CTRL J	Load data (SEQ) file
CTRL Z	Save data (SEQ) file
CTRL U	Verify data file
CTRL >	Send disk command
CTRL <	Fetch disk status
CTRL +	Insert single line
CTRL -	Delete single line
CTRL 0	Drive 0 directory
CTRL 1	Drive 1 directory
CTRL 2	Both drives directory
CTRL A	Append (insert) text file
CTRL R	Set range
CTRL T	Transfer range
CTRL D	Delete range
CTRL C	Copy range
CTRL Q	Save range
CTRL F	Find string
CTRL H	Hunt string
CTRL @	Search & replace
CTRL G	Global file copy
CTRL P	Set phrase
CTRL M	move phrase
CTRL K	Kill phrase
CTRL Shift K	Change case in phrase
CTRL 0	Printer output
CTRL V	Video output
CTRL Shift 0	Default output
CTRL W	Load printer file
CTRL N	Set/clear numeric tab
CTRL S	Change disk device number
CTRL #	Change printer device number
CTRL Shift C	Set column
CTRL Shift M	Move column
CTRL Shift D	Delete column
CTRL Shift E	Erase column
CTRL Shift S	Shift column
CTRL Shift I	Insert before column
CTRL Shift R	Repeat column
CTRL Shift B	Fill in variable block
CTRL Shift V	Fill in all variable blocks
CTRL Shift F	Find variable block
CTRL Shift N	Nullify variable blocks
CTRL Shift Z	Change variable file name
CTRL =	Add/subtract column
CTRL .	Set decimal point
CTRL Shift A	Sort column using delimiters
CTRL Shift Q	Set delimiters
CTRL Shift W	Create delimiter column
CTRL Shift H	Add row using delimiters
CTRL Shift L	Change line length
CTRL Shift CLR	Clear all non-numeric tabs
CTRL CRSR Dn	Rapid scrolling down the document
CTRL CRSR Up	Rapid scrolling up the document
CTRL !	Breakpoint (soft space)
CTRL <	Boldface begin
CTRL >	Boldface end
CTRL [Underline begin
CTRL]	Underline end
CTRL 4	Superscript single character
CTRL 6	Subscript begin
CTRL 7	Superscript begin
CTRL 8	Superscript end
CTRL 9	Subscript begin
CTRL /	Subscript end
CTRL ;	Special character
CTRL :	Conditional hyphen
CTRL &	Checkmark character
CTRL B	Variable block

Escape Sequence

ESC !	Subscript begin
ESC "	Subscript end
ESC #	Superscript single character
ESC \$	Subscript single character
ESC %	Superscript begin
ESC '	Superscript end
ESC &	Special character
ESC (Boldface begin
ESC)	Boldface end
ESC [Underline begin
ESC]	Underline end
ESC <	Italics begin
ESC >	Italics end
ESC .	Underline character
ESC RUN/STOP	Go to next numeric tab
ESC &	Delimiter for variable blocks

Direct Key Functions

RUN/STOP	Go to next tab stop
Shift CLR	Set TAB stop
HOME	Move cursor to top LH posn on screen
HOME/HOME	Go to first line of text
Shift RUN/STOP	Go to end of text
Up-arrow	All Caps mode
Left arrow	ESCape
RUN/STOP	Screen read a file name (when used after CTRL L)

Formatting commands

(All preceded by the 'check mark' & key)

ai+N	Auto indent paragraphs to right of left margin
ai-N	Auto indent paragraphs to left of left margin
cn0	Turn centering off
cn1	Turn centering on
ftN	Set up footer 'N' lines from bottom of page
hdN	Set up header 'N' lines above text
h1N	Set left margin of header to column 'N'
hrN	Set right margin of header to column 'N'
ju0	Turn justification off
ju1	Turn justification on
lmN	Fix left margin at column 'N'
lsN	Set line spacing to 'N' lines per inch
pgN	Set paging after 'N' lines
ppN	Set physical page length to 'N' lines
ptN	Set pitch to 'N' chars per inch
ra0	Turn right-alignment off
ra1	Turn right-alignment on
rmN	Set right margin at column 'N'
spN	Set spacing (no of CRs) to 'N'
vpN	Leave 'N' blank lines at the top of each page
x=N	Set user-defined character 'X' equal to ASCII value 'N' (where 'X' = 1-9)

(This list is not exhaustive; there are at least another eight commands regarding margin settings alone. Only the main ones have been shown)



a=Ministry of Education will assign that string to the letter **a**, and when you want to use the phrase you touch the **left-arrow key**; the prompt 'key?' then appears on the Status line. Typing 'a' inserts the complete phrase into the document.

Output

This is one area where Paperclip really shows the rest how to do it. Each type of printer has its own 'printer files' on disk, specifying all the various codes needed to perform the standard functions. Before you do a print you load the printer file for your own printer; this allows almost any type of printer to be used efficiently.

If your printer is not specified you have only to create your own 'printer file' to be able to use it, and detailed instructions for that are in the manual.

A useful feature for producing neat documents is the **conditional hyphen**. Because you don't know in advance where your words will appear it is not possible to hyphenate words as you type them in. Using the conditional hyphen in long words means that the hyphen only appears if a word needs to be split.

While it is not really aimed at the complete beginner it does cover all the facilities and is clearly laid out. It is easy to read, too, and there's a good summary of all the commands and control functions at the back with a list of error messages and their meanings.

Limitations

Apart from not formatting the text as you type and the limitations of the 'preview' feature there is little that has been left out. I can think of few jobs that this package could not handle.

Other facilities

Paperclip uses the colour facilities of the 64 well. Function keys **2**, **4** and **6** change the character, screen and background colours respectively.

Two features which really make this package a cut above the rest are the alphabetic column sort and the column manipulation. The former lets you enter columns of text such as addresses and then sort them by 'fields' into alphabetical order.

The other one allows columns of figures (or text) to be moved, copied, deleted and inserted as well as doing simple addition or subtraction on both rows and

columns. Having done your arithmetic you can place the result anywhere in the document.

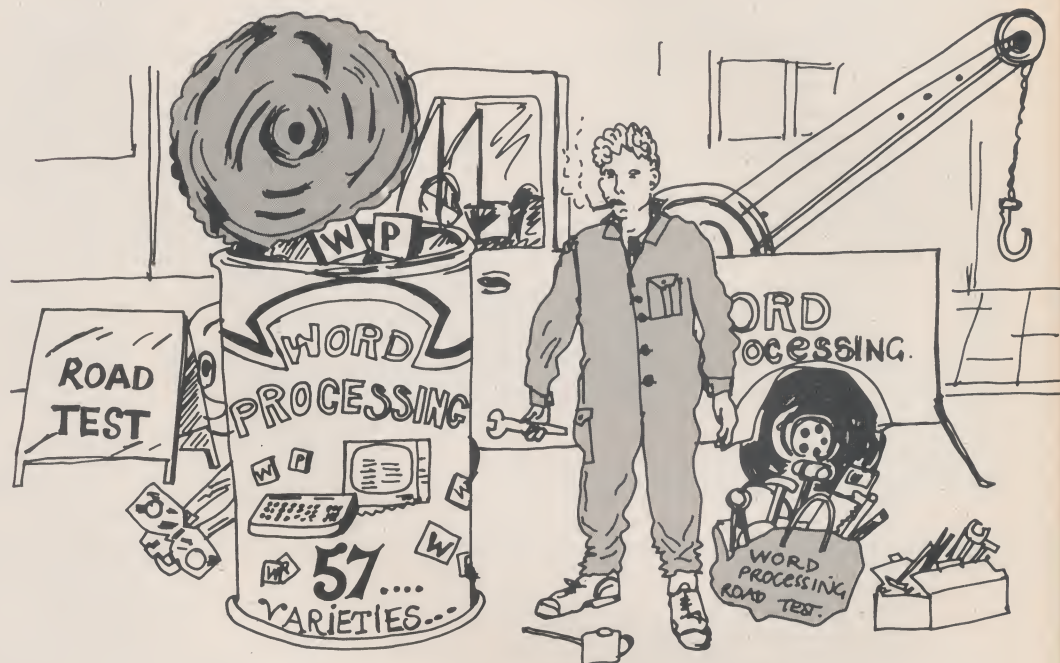
Headers, footers and automatic page numbering are all provided, allowing professional-looking documents to be pro-

Conclusions

At £98-90 this is probably one of the most expensive WP packages currently available for the 64. Fortunately it is also one of the most comprehensive, with a number of

features that leave other WP programs way behind.

If you want all those facilities there is really no other choice; the other packages just can't compete. If you don't really need all of them however, you might be better off looking at something a bit cheaper.



duced. You can also save and load blocks of text allowing letters to be created from **standard paragraphs**. As you would expect the normal **mail-merge** facilities are also present.

The disk commands are extensive - typing **CTRL** give the full range. Files can be saved either as normal PRG files using **CTRL S** or as SEQ files using **CTRL Z** (files can then be created which other programs can read). The disk directory can be displayed by **CTRL O**. You can even load a file from the directory list by moving the cursor to the file name and typing **CTRL L** - if you then hit **RUN/STOP** the file will be loaded; very neat.

Other good features include the ability to print **multiple copies** of a document and allow **multiple spacing** between lines on the output.

The manual

This is a very large document indeed, and it's comprehensive - though regrettably there is no index; you have to look through the contents pages each time you want to find something.

Paperclip on balance

For

- Text creation and editing facilities are very easy to use with a good range of block commands
- Files can be saved as either text or data
- Excellent range of printer options, using 'printer files'
- Large range of formatting commands
- Alphabetic column sort
- Ability to manipulate columns easily and do simple arithmetic on columns or rows
- Good range of disk commands
- Good use of colour
- Comprehensive manual
- Ability to link files, not only for printing, but for Search/Replace and Find operations as well

Against

- Text does not appear on the screen as it will be printed
- Formatting commands cause the screen to look rather cluttered
- Rather expensive

Under review Paperclip

Supplier **Kobra Micro Marketing Henley**

Price: **£98.90**

SIMPLY RIGHT SIMPLY WRITE

BUSINESS QUALITY PROGRAMS HOME COMPUTER COSTS

Simply Write Word Processor

A favourite with PET/CBM users since 1981. Completely rewritten for VIC-20 and 64, with function keys and colour for extra ease. Full screen editing. Keeps and appends standard sections to build contracts, quotations etc. Includes 'mail merge', page headers, page numbers. Links files for long texts. Sends control characters, graphics. Works with tape or disk files, any printer. Needs 16K.

£35 + VAT tape, £40 + VAT disk (PET £5 + VAT more)

Simply File Database Management System

Full-function Information manager. Random access files on any Commodore single or dual disk drive. One of the best available systems on the PET/CBM at any price, and probably the best for 64 and VIC-20. Suitable for stock control, mailing lists, club and school records, VAT input and output records etc. Prints analysed columnar summaries with total and averages. Prints mail labels. Calculates. Creates sequential files to work with other programs (including 'Simply Write'). Even includes provision to add your own routine in the unlikely event it doesn't do everything you want!

PET/CBM £65 + VAT: VIC-20 or 64 £60 + VAT

Send for details of other useful Pet/Vic/64

DEALER/DISTRIBUTOR ENQUIRIES INVITED

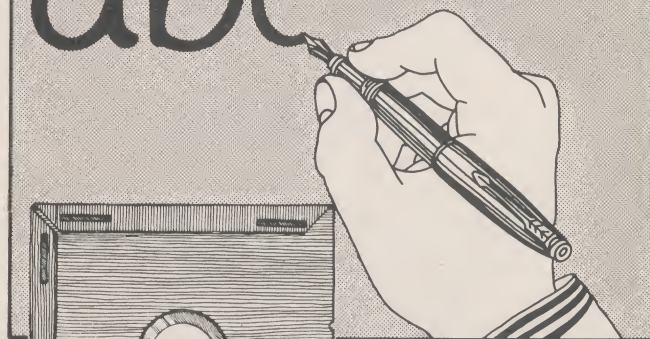
**SIMPLE
SOFTWARE LTD**

15 HAVELOCK ROAD
BRIGHTON BN1 6GL
PHONE (0273) 504879

CodeWriter

makes
data base and
related programming
as simple as

abc



"WHY BUY ANY
OTHER DATA-BASE
PROGRAM WHEN
YOU HAVE
CODEWRITER?"
— recent satisfied user.

Forget about the expense of hiring a professional programmer or the restrictions of 'off-the-shelf' programs. Become your own program designer producing microsoftware to suit your specific requirements. Codewriter enables you to do this, you type commands in your own everyday language, just as you would write them on paper... it's as simple as ABC!

When you've completed your design, Codewriter will write the program code and store it on your own disk whilst you sit back and watch. At anytime, you can of course modify the programs you've designed.

Your programs may include data bases, printed reports, calculations and comparisons between fields of data, development of menus, forms, letters, memos, cheques, invoices, statements, mailing labels... the possibilities for design are endless.

Codewriter operates with most popular micros.

For details on Codewriter, complete and return the coupon to;
DYNATECH MICROSOFTWARE LTD.



Rue du Commerce, Bouet, St. Peter Port
Guernsey, Channel Islands
Telephone: 0481 20155 Telex: 4191130

name _____
address _____
tel. _____

kemp

EASY INTRODUCTIONS TO BUSINESS SOFTWARE COMMODORE 64 48K SPECTRUM

"Easy to Use" *Personal Computer News*

"At last viable business software for the Sinclair"
ZX Computing

"Very easy to use...very good." *Soft*

Stock Control	Unlimited entries
Sales Ledger	Up to 1200 entries per month
Purchase Ledger	"
Stock Ledger	"

Suitable for small businesses, limited companies, etc.

48K Spectrum £14.95 each

Commodore 64 £24.95 (ring for availability) (disk add £3)

Access/Barclaycard - Logic Sales 01-882 4942

Available at Spectrum, Computers For All, Selfridges and
all good computer shops

Cheques/POs to

KEMP LIMITED

43 Muswell Hill, London N10 3PN

Hotline 01-444 5499

Distributed by Microdealer UK, PCS Distribution and TW Distributors Ltd (Eire)

Can you afford to write for anyone else?



Leaders in Games Software....

require freelance and full time CBM 64 assembly language programmers for their expanding range of 64 games and utilities.

International Marketing brings you the maximum in Royalties or outright purchase. Some translation work from other machines is also available. If you are interested in earning the giant rewards that others are just talking about write today in confidence to:-



SOFTWARE LIMITED

RALLY BUILDINGS,
STANLEY STREET,
MANCHESTER M3 5FD.
or phone 061-832 7049 for details.

64-STATSPower

STATISTICS PACKAGE

Now available for the Commodore 64, a most sophisticated statistical package. With the aid of 64-STATSPower you can become a statistics expert in a matter of hours. Ideal for forecasting, business, home use, schools, students, research workers, hobbyists, marketing, sales, administration, scientists.

The possible uses of 64-STATSPower are limited only by your own imagination. Comprehensive manual (with numerous worked examples) guides the novice user through the use of the various statistical techniques — invaluable to students of statistics. In addition, the programs themselves are extremely user-friendly.

64-STATSPower has numerous advanced features not to be found on other much more expensive statistical packages. Contents include: ascending data sort; means (arithmetic, geometric, harmonic, quadratic); median; quartiles; semi IQ range; variance; S.D.; mean (absolute) deviation; max and min values; range; measures of skewness & kurtosis; deseasonalisation of data (weekly, monthly, quarterly); log-reciprocal time trend estimation; moving averages (user-defined length); linear and constant-growth rate time trend estimation; chi-square test (one-way classification & contingency tables); sophisticated multiple regression program (options include: dummy variables; user-specified data transformations; user-defined artificial variables; data alteration); regression coefficients; standard errors; R^2 ; Durbin-Watson; von-Neumann (with calculated asy. mean & variance); F-statistic.

Only £14.95 sterling (including p&p)
Available on cassette or disc (£2 extra). Cheques & P.O.'s to:

SCIENTIFIC SOFTWARE

BALGLASS HOUSE, 39 MAIN STREET,
HOWTH, CO. DUBLIN, EIRE.
Phone 326703. Trade enquiries welcome.



COMMODORE 64 SOFTWARE

Flight Simulator

Pilot your own aircraft to a wide choice of airports in U.K. Magnificent graphics. Requires joystick.

Cassette game £9.95p.

CBM 64 Assembler

Write, read and copy your own machine code programs.

Cassette £6.95p.

Just released-GOLF

Play golf on this 18 hole par 72 course. Challenging game for all levels. Improve your handicap at home:

Cassette game £7.50p.

Lifetime replacement guarantee

Mail order only to:

Anger Productions 14 The Oval, Broxbourne, EN10 6DQ.

Flight ☐ **£9.95** Assembler ☐ **£6.95** Golf ☐ **£7.50**
NAME

ADDRESS

Cut out coupon, tick which program(s) required and send to us with remittance

ULTRABASIC-64

£22.95 tape £24.95 disk

Adds 50 powerful commands to Basic, including hires & multicolour graphics, sprites, turtle graphics, sound, joystick, light pen, screen dump to printer & more.

CHARTPAK-64

£24.95 disk only

A comprehensive package that gives you professional charts in high-resolution graphics with any of 8 different formats. Data can be simply entered, edited, saved and recalled, and the final result can be recorded on your printer. Also works with Busicalc files.

SYNTHY-64

£14.95 tape £16.95 disk

The best music synthesiser available for the CBM-64, now distributed exclusively by Adamsoft. Makes it easy to use the sophisticated sound capabilities of the computer. Sample compositions included.

Also available, a choice of three music disks or cassettes (Classics, American & Christmas) at £8.95 each.

ZOOM PASCAL

£29.95 disk only

A powerful subset of PASCAL at a very reasonable price. ZOOM PASCAL runs on a CBM-64 with 1541 disk drive. The package consists of an editor, compiler & translator, and sample programs. True machine code is generated so that compiled programs will run independently and at high speed.

STAGSOFT RESET BUTTON

£5.95

Escape from crashes and recover your Basic or machine code program intact. Plugs into serial port at rear of computer or disk drive.

Many more products available for VIC-20 CBM-64 and PET. Adamsoft are UK distributors for all ABACUS SOFTWARE, USA products. Send s&e for catalogue and details of our discount offers.

ADAMSOFT 18 Norwich Avenue, Rochdale, Lancs.
OL11 5JZ. Tel: 0706-524304 Dealer enquiries welcome.

Another Basic extender

ULTRABASIC for the 64 reviewed

by Mike Todd

In December Mike Todd looked at two Basic enhancement packages for the 64 — Simons' Basic and BC Basic. Since then we've found another such package for him to get his teeth into. ULTRABASIC-64 was written in the USA by Roy Wainwright (stalwart of a company over there called Abacus and probably best known for Abacus's music and graphics tools for the Vic). ULTRABASIC is available in the UK through Adamsoft at £22.95 for a cassette or £24.95 for the disk version.

Being on disk or cassette means that ULTRABASIC must be loaded at the start of a session and this is done in two stages.

First, the appropriate 'initialiser' program is loaded depending on the type of printer you are using. It will cope with a Commodore 1515 or 1525 printer, or an Epson MX-80/FX-80 connected via the user port. (If the Epson option is chosen, you're asked if a line feed should be sent to the printer after each carriage return.)

Once this is RUN, the main part of ULTRABASIC is loaded automatically ... followed by a frustrating 15 seconds of animated title page. Only when this has finished its antics is ULTRABASIC installed and ready for use.

Controls

At this point, three of the function keys are set up as special control keys. Pressing F7 will switch over to the graphics screen (which at this point still has the title page on it); F5 will revert back to text. F1 will turn off any sounds that may have been accidentally left going.

And what do you get? Well, for a start there's what you don't get — ULTRABASIC has no programmer's aid type commands, no extra arithmetic or string commands, and no structured programming facilities — other than an unusual loop control feature which is discussed later.

Graphics

Setting up the graphics screen is simple. **HIRES** or **MULTI** commands specify the colour of the screen and border; and there is the usual range of plotting commands for plotting points, drawing lines, circles and boxes and for putting text on the screen, all with the origin of the screen (0,0) at the bottom left.

There are also a few unusual commands. **TIC** places tick marks along the edge of the display screen for use as axes in graphs; **CHAR** puts normal-size characters on the hi-res screen and large characters on the multicolour screen; **BLOCK** which draws a block of the specified colour. The **BLOCK** command is particularly unusual, for in hi-res mode the block of colour appears in the screen background so that normal plotting can still be done over the top of it.

Each of these graphics commands is performed in the specified colour, with multicolour mode allowing three 'paintbrushes' (as the handbook calls them). They are specified by adding zero, 100 or 200 to the plot colour.

The **MODE** command determines whether points and lines should be set, erased or inverted. Once the mode is set, all graphics commands are performed in the specified mode until it is changed.

There is also a **FILL** command; but as confusion can occur in multicolour mode as to which lines represent the area boundaries, it is possible to specify which 'paintbrush' was used to draw the boundary.

The graphics screen can be saved on disk or cassette — though the large quantity of data involved means that this takes a long time: up to 50 seconds on disk, very much longer for tape. It is also possible to print the graphics screen on an Epson MX80/FX80: or on a Commodore 1515 (with the upgrade ROM) or a 1525E. The handbook points out that printers connected through an IEEE interface will not work, and the Epson must be connected using a user-port-to-Centronics-interface cable.

Turning Turtle

As well as the conventional graphics commands, ULTRABASIC provides for

TURTLE graphics. These are based upon the idea of controlling a mobile drawing machine (called a 'Turtle') and directing it to turn and move with its pen up or down.

When the turtle mode is selected, a picture of the turtle appears on the screen at the

specified co-ordinates. From now on its movement is controlled using the **TURTLE** commands.

TURN will turn the turtle through a specified angle (in degrees) and **MOVE** will move it a given number of dots in the

Graphics Commands

HIRES
MULTI
MODE

DOT
DRAW
BOX
BLOCK
CIRCLE
CHAR
FILL

TIC
PIXEL

Sprite Commands

COPY
SPRITE
OFF

PLACE
ROTATE

BIT
COLORS
HEX
SDATA

SCOLL
BCOLL

Turtle Commands

TURTLE
TCOLOR
BYE

TUP
TDOWN
TURN
TURNTO
MOVE

TPOS



Misc Screen Functions

DUMP
GREAD

HARD

NORM

NORM
GRAPH

Sound

SOUND
GEN
VOL

SET
SDATA
TUNE

Other commands

JOY
PADDLE
PEN

SCIR
CTR

[n:....:]
:EXUT



direction it is pointing.

This type of graphics plotting is extremely easy to use, although a little slow; but the turtle itself can be turned off (using **BYE**) and this does speed up plotting considerably.

If at any time you need to know where the turtle is, the direction it is pointing and its X and Y co-ordinates can be read.

Sprites

Sprite definition in ULTRABASIC is done by either 'drawing' the sprite using 1s and 0s (numbers 0 to 3 if defining a multi-colour sprite) or by using hex or decimal representations.

The decimal definition is far more versatile than the handbook shows since the numbers (which are incorrectly shown in the handbook as being within quotes) can be any numeric variable. So there is the possibility of setting up sprite definitions from disk or cassette.

Sprites are positioned using the **PLACE** command and can be rotated through 90 degrees at a time using **ROTATE**.

There is no sprite movement facility, and this must be done by repositioning the sprite using **PLACE**; but there are commands available to determine when specified sprites have collided with themselves or with the background.

Sound

There are two ways of generating sound using ULTRABASIC. The **SOUND** command simply turns on a specified voice at a given pitch for a given length of time; **GEN** allows the sound generator parameters involved to be set up if the default values are not required. As well as setting the overall volume, **VOL** will also allow the filter parameters to be set.

The second method involves setting up tune data statements using the **TDATA** command, selecting these to a sound generator using **SET**, and then playing them with the **TUNE** command.

The data required is complicated to set up and needs to be written in hexadecimal notation. It allows a specific pitch to be selected and then modified as the tune continues. It is really far too complex to be used for playing

tunes, but could be useful for games sound effects.

Pitch is determined using the numbers 0 to 127, which generate specific notes according to a table included in the handbook, and there is limited scope to tune between notes.

ULTRABASIC also includes a rather unusual but useful loop control facility. It's rather like a FOR/NEXT loop ... only different. A loop is set up as follows:

```
[27: X=X+1 : PRINT X :]
```

That will cause the instructions within the square brackets to be executed 27 times. Although the handbook implies that this figure should only be a constant value, it is possible to use any legal arithmetic expression to control the loop.

The loop itself can consist of several lines of Basic code; and loops can be nested within loops, up to a maximum of 30. **EXIT** can be used to leave the loop should this be needed.

Conclusions

The fact that it is easy to switch between the text and graphics screens using the F5 and F7 keys (or **NORM** and **GRAPH** commands) made experimenting with the package extremely easy, although there were times when the F-key switching stopped working. Further investigation showed that the interrupt pointers had been changed by ULTRABASIC and this also meant that the 10 internal timers had stopped counting.

Because graphics and text screen must share a common colour memory, ULTRABASIC preserves the colour memory of a graphics screen when flipping back to text mode. But it does not save the text-mode colour memory and instead just fills it with a single colour when you flip back to text. It also means that care should be taken if anything is printed to

the text screen whilst displaying the graphics screen as it could corrupt the graphics colours.

The main attraction of ULTRABASIC is certainly the inclusion of the **TURTLE** graphics commands. And for those alone, it may be worth considering - although there are other (and more versatile) packages available for those who want to specialise in this form of graphics control.

The overall range of commands is restricted. But at least the graphics commands are simple to understand, and they do contain the most frequently-needed features. Sound control though is limited and can be difficult to use.

Overall: a good but limited package. At least it comes complete with a demonstration program as well as two tutorial programs describing how the commands are used.

Category of functions	Range	Ease of use	Usefulness	Reliability
Graphics set-up	★★	★★★★	★★★★	★★★★★
Plotting commands	★★★★	★★★★	★★★★	★★★★★
Turtle commands	★★★★	★★★★★	★★★★	★★★★
Misc screen commands	★★★	★★★★★	★★★★	★★★★★
Sprite set-up	★★★	★★★	★★★★	★★★★
Sprite programming	★★	★★★★	★★★★	★★★★★
Keyboard input	none	none	none	none
Misc input/output	★★★	★★★★★	★★★★★	★★★★★
Sound set-up	★★★★	★★★	★★★★	★★★★
Sound programming	★★★★	★	★	★★★★
Programming commands	★	★★★★	★★★★	★★★★★
Misc facilities	★★	★★★	★★	★★★
Total points	32	41	40	49
BC Basic	37	49	47	59
Simons Basic	47	43	42	47
Overall total			162	
BC Basic			192	
Simons Basic			179	
Price		£22.95 (cassette), £24.95 (disk)		
BC Basic			£19.95	
Simons Basic			£50	
Value for money			7.06	
BC Basic			9.62	
Simons Basic			3.58	
Availability		Adamsoft 18 Norwich Avenue Rochdale Lancs OL11 5JZ		

“robustness and reliability were excellent... a really good feel to the action... a pleasure to use... not one game failed to load... nice professional... I like it... very impressed”

EXTRACTS: J.D. COLLINS
GIANT TEST VICCOMPUTING
(Vol. 2 Issue 5 June, '83)

DON'T JUST TAKE OUR WORD FOR IT!

SUMLOCK MICROWARE

SUPERB SOFTWARE FOR THE VIC 20



SP.01 SKRAMBLE
Destroy the enemy installations and missiles in their underground silo. Joystick or keyboard.
M/code. **£7.95**



SP.02 JUMPIN JACK
Cross a busy road and treacherous river to get Jack home. Joystick or keyboard. Multi-colour Hi-Res Gr.
M/code. **£7.95**



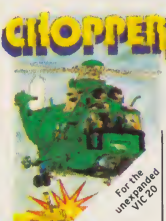
SP.03 TRIAD Defend your base against the suicide fleets of alien hoverships. Joysticks or keyboard.
M/code. **£7.95**



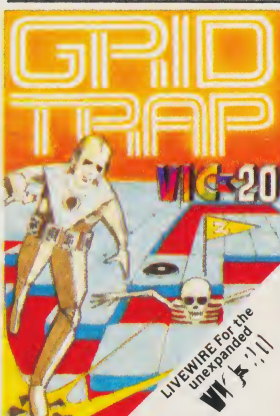
SP.15 SCORPION
Destroy the poisonous cacti and deadly scorpions to survive. Joystick or keyboard.
M/code. **£7.95**



SP.06 ASTRO FIGHTERS A space duel played by two players at once. Requires Joystick.
M/code. **£6.95**



SP.07 CHOPPER
Attack and destroy the enemy base but watch out for guided missiles. Joystick or keyboard.
M/code. **£6.95**



SP.04 GRIDTRAP Your man has been placed on a grid of traps which open after he walks over them. Defuse the time bombs in less than 60 seconds. Further hazards are presented by a series of mines scattered around the grid which cannot be walked on and a wandering "BOOT" which must be avoided. The more you play this one the harder it gets. bonus life 100,000 points. Programmed in Machine Code. Hi-res Colour Graphics and novel musical sound effects.
Joystick or keyboard control. **£7.95**



SP.16 MULTITRON Lightning responses are demanded when manning your Starfighter through what can only be described as the biggest alien encounter of all time. Use your laser cannon, destroy or be destroyed. The Cosmic Phoenix, Space Turtles, Star Hoppers, Tri-Missiles, Warp Stingers, and Meanies defend the space lanes in wave after wave of invasion action... The ultimate journey now awaits you... The winding space corridor! Hi-res colour graphics. Sound effects.
Joystick or keyboard. M/code. **£7.95**

... AND THE COMMODORE 64

LW01 SKRAMBLE Enhanced features. Hi-res graphics. Sprite graphics. Synthsound. No. 2 option. Pixel plot graphics. Screen scroll. **£8.95**

L03 TRIAD Hi-res graphics. Sprite graphics. Synthsound. Pixel plot graphics. 2 Player and gamelevel option. **£8.95**

LW02 JUMPIN JACK Enhanced features. Hi-res multi-colour graphics. Sprite graphics. Synthsound. 2 Player option. Lady Frog. Crocodiles etc. **£8.95**

LW04 GRIDTRAP Hi-res graphics. Sprite graphics. Synthsound etc. **£8.95**

SP.17 AT THE CIRCUS
Requires 3K or more expansion Educational adding and subtracting program for 4-8 year olds 3 Levels animated graphics. (not illustrated) **£5.95**

SEND FOR YOUR SUMLOCK MICROWARE NOW OR FOR A FREE BROCHURE AND YOUR NEAREST DEALER INFORMATION

SP.12 PUZZLE PACK
A compendium of six intriguing puzzles and games for all the family. **£6.95**

SP.14 DATA PACK
A three program data file handling utility package and combined educational quiz. **£8.95**



SP.08 DESTROYER
Battle against Sea Air attack with the destroyer H.M.S. Victory. Joystick not required.
M/code. **£7.95**



SP.09 GUNFIGHT Duel with a deadly hombre in a western shootout play the computer or 2nd player. Joystick or keyboard.
M/code. **£6.95**



SP.10 SPACE RESCUE
Pilot your rescue craft through the asteroid belt and save the stranded crew. Joystick or keyboard.
M/code. **£6.95**



SP.13 STARSHIP ESCAPE A compelling and exciting real time graphics space adventure game. Joystick or keyboard.
M/code. **£9.95**



SUMLOCK MICROWARE

198 Deansgate, Manchester, M3 3NE.

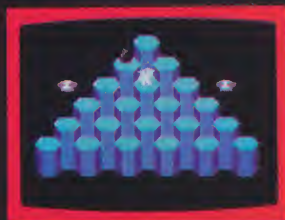
AVAILABLE FROM GOOD COMPUTER DEALERS AND BOOK SHOPS NATIONWIDE INCLUDING: WILDINGS, SHERRAT & HUGHES, JOHN MENZIES. OVERSEAS EXPORT ORDERS ON APPLICATION. ALL SOFTWARE IS FULLY GUARANTEED. PRICES INCLUDE POSTAGE & PACKING.

PLEASE SEND ME THE FOLLOWING MICROWARE (QUOTE NOS.)
I ENCLOSE CHEQUE/P.O. £
TO: NAME
ADDRESS
DPT. NO.
VCS1

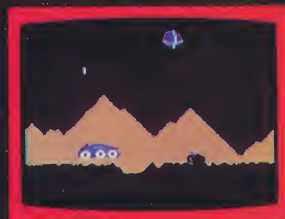
ANIROG SOFTWARE

COMPUTER GAMES
OF TOMORROW
AVAILABLE
NOW!

**AS SEEN ON
T.V.!!**



HEXPERT



MOON BUGGY



SKRAMBLE



3D TIME TREK

KONG K.B./J.S. £7.95

4 SCREENS WITH BRILLIANT ANIMATED GRAPHICS.

SKRAMBLE J.S. £7.95

6 SECTORS TO TEST YOUR SKILL.

HEXPERT J.S. £7.95

TRAIN BERT TO BE HEXPERT ON THIS 3D HEXAGONAL PYRAMID

MOON BUGGY J.S. £7.95

MANOEUVRE YOUR PATROL CRAFT OVER GIANT POT HOLES AS YOU DEFEND THE MOON BUGGY FROM ALIEN ATTACK.

FROG RUN K.B./J.S. £5.95

A POPULAR ARCADE GAME. FUN FOR THE WHOLE FAMILY.

3D TIME TREK K.B./J.S. £5.95

SPECTACULAR 3D GRAPHICS. STAR TREK GAME.

DUNGEONS K.B. £6.95

ENTER THE REALMS OF FANTASY IN THIS ROLE PLAYING GAME.

DARK DUNGEONS K.B. £6.95

2ND IN THE SERIES OF FOUR. DEFINITELY NOT FOR THE FAINT HEARTED.

COMMODORE



NEW

GALAXY

AVOID CAPTURE BY THE ALIEN MOTHER SHIPS TRACTOR BEAM AS THE FIGHTERS DIVE BOMB YOU. 100 SCREENS WITH A TWO PLAYER OPTION. K.B./J.S. £7.95

**NEW APPROVED GAMES FOR
THE STACK LIGHT RIFLE**

INDIAN ATTACK £5.95

COSMIC COMMANDO £5.95

VENGEANCE OF ZENO £5.95

24 HR. CREDIT CARD SALES HORLEY (02934) 6083
PAYMENT BY CHEQUE, P.O., ACCESS/VISA

8 HIGH STREET HORLEY, SURREY.

Overseas 50p post & packaging

TRADE ENQUIRIES WELCOME

29, West Hill, Dartford, Kent. (0322) 92513/8



Business management on tape

Quick Count's Cash Trader Bookkeeper reviewed

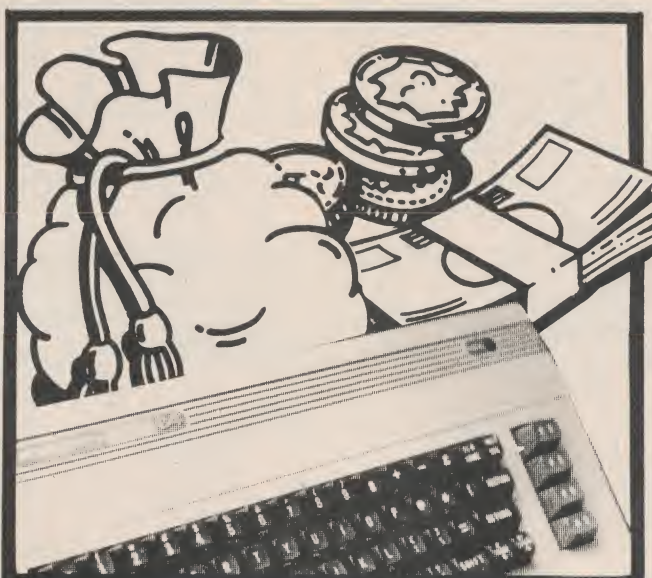
by Tony Harrington

Quick-Count's 'Bookkeeping system for the Cash Trader' is a very interesting attempt to provide a complete cassette-based business system for the 64. The title says a great deal about the approach Quick-Count has taken. It really is designed as a basic 'do-it-yourself' bookkeeping system and the knowledge of accountancy or bookkeeping that you need to run it – with one important exception – is minimal. Tony Harrington checks it out.

In one sense, this is a very primitive system. There is no sales ledger and no purchase ledger; instead it works for the most part off ideas that everyone in the trade understands. You have cash coming into the company and cash going out of the company. Keep track of this on a weekly basis, and you've got yourself a business system. What could be simpler?

Inevitably though, to be really useful, the package has to go beyond the basic level. And this is where the exception mentioned above comes in. The package has to pull together and summarise the data that is keyed in from week to week. And at this point the user with no bookkeeping knowledge at all will find him/herself encountering unfamiliar accounting terminology. Words like 'nominal ledger', 'profit and loss account' and 'balance sheet' becomes inescapable.

This shouldn't come as a surprise though. The excellent little 17-page manual that goes with the system warns that you will need some idea of how books are kept. This is because the 79 page individual accounts that the system allows in its nominal ledger are already divided up, by Quick-Count, into three categories: trading account, profit and loss account and balance sheet. "If you are in any doubt how these accounts should apply in your business", the manual says, "you would be well advised to take the advice of a bookkeeper before starting out". That is sound advice, and shouldn't cost you more than a few quid.



In Business

Getting started

The first question that faces a new user of any system is 'how do I get going?'. In this respect Cash Trader is well designed. Once the package has loaded – a procedure that the manual warns will take 10 minutes (and it does) – the opening menu on the screen contains the following choices:

1. Post
2. Display
3. Utilities

In isolation these labels are a bit obscure. But the manual provides clear and detailed instructions.

The first step is to choose option 3 to tell the system some essential things that it needs to

know when you first implement the program.

The first of these is whether or not you are using a printer. As a reviewer, I like being given the option of doing without a printer if I so wish. But it is not good bookkeeping practice. You will be entering transactions into the system and if you don't have a printer you risk losing the detailed information on transactions. At certain times, for example, you will be using routines which clear detailed transactions out of the computer's memory and just retain balances. If these details disappear from your memory as well, you will be left with a set of figures that won't mean a thing to anybody!

The manual, once again,

sounds a clear warning here: "If you are not using a printer you will have to write down in detail every item you post, as shown on the screen. But the whole business of manually transcribing data from a screen leaves the door open for all kinds of inaccuracies to creep in. You might miss something or get the figures the wrong way round. Why take the risk?"

A nice touch is that the package allows you a choice between a standard ASCII printer and a CBM printer. It uses a limited character set, so whatever you choose will give you the same results.

If there is a printer connected, all the posting and display procedures will dump everything that is on the screen down to the printer. At the beginning of every display and posting routine you get a message on the screen asking 'Printer ready? Press Y or N'. If you press N, the program assumes that you haven't yet used 'Utilities' (option 3) to select your printer.

The Utilities menu has eight options:

1. Printer select
2. Set up
3. Alter date
4. Alter VAT rates
5. Alter Nominal A/C descriptions
6. New Period
7. Dump data file
8. Retrieve data file

Pressing the 'up arrow' key automatically steps you back through the sub-menus to the main menu, so there is never any difficulty in finding your way about the system. You might not understand it initially, but you will be able to move from screen

to screen quite freely without getting trapped. This is a definite plus, since you can experiment and feel your way, confident that you will not be doing any damage to any part of the program.

In operation

The actual operation of the package is simple enough once you have grasped the relationship between the two parts of the system. On the one hand, it presents you with a way of recording takings and expenditure on a weekly basis. On the other, it distributes the takings and expenditure among the nominal ledger accounts.

A nominal ledger aims at providing an overall picture of what is happening to a business. It consists of a number of different account headings, like bank account, cash account, rent account, heating account, sales accounts, purchases accounts and so on.

In Cash Trader, some of these headings are already defined for you, others you can define yourself. You would need to do this if you felt that there were important areas of income or expenditure which you wanted to identify and keep track of during your trading year, that are not identified by the 'skeleton' nominal ledger set up by Cash Trader.

Account numbers 01 to 19 are set aside for the Trading Account, numbers 20 to 49 relate to the Profit and Loss Account and the remaining numbers (50 to 79) are Balance Sheet accounts.

Although a maximum of 79 nominal ledger accounts would be too restrictive for a big business, most traders who would contemplate a system like this should find themselves able to fit their business into it quite happily.

Option 2, 'Set up', automatically creates the skeleton nominal ledger. My only quibble here is that there is no list provided in the manual of the account description set up by Quick-Count. To find out what these are, you have to move to another menu and page through each account.

This is the only way to sort out which account numbers have already been defined and which haven't. I found accounts called 'hire-purchase', 'heating', 'rent' and so on. The manual should really have contained a detailed Nominal Ledger accounts list.

Other options on the Utilities menu are more or less self explanatory. The system will cater for three different rates of VAT (you only need one at the moment), and if the law changes you can key in the new rate or rates in seconds using option 4.

Once you have told the system what the current date is and what the standard VAT rate is (15%), you're ready to go. Option one on the main menu ('Post') brings up a new screen with four choices:

1. Daily Takings
2. Payments in Cash
3. Payments from current Bank A/C
4. Journals.

When you start off with the system you will need to input the

Press Y or N'). This requirement saves a lot of time in recovering from errors.

The Journal routine is particularly useful when you pay cash into your bank account for any reason. You would use option 4 to debit A/C no. 59, current bank account, and credit A/C no. 60, cash account (If you don't understand why you would be debiting the bank account when paying cash into it, have a chat with someone who understands bookkeeping.)

Daily take

The 'Daily Takings' option is the heart of the system. It is easy to follow if you step through the

cash all you need to do is enter two takings totals for that day. In this respect it is a very simple, flexible system.

I was interested too, to see that the system gives you the means to treat American Express and other credit cards differently from Barclays and Access card pay slips (which go straight into your bank account and are immediately credited to you by the bank). The credit card suspense account allows you to record amounts due from the other card companies separately. When you are sent the cash by the card company, you simply put through a journal entry crediting the credit card suspense account and debiting the bank account.



opening balances (ie. the amount in key accounts such as the bank account and the cash account). This is done using option 4. Each journal transaction has a three-digit number; you can either input a specific number, or allow the system to start at '1' and increment one each time.

Cash Trader is a double-entry system which should always balance out to zero. So when you debit a particular account with an opening balance, you have to credit A/C no. 77, the Opening Balance Control account. You are given 16 characters to describe the reason for any journal transaction.

Another sound feature of this package is that in any posting routine, before any transaction is stored in memory, you are asked to confirm that everything has been entered correctly ('OK?

menu. Like the payments sections (options 2 and 3) this section is based on a seven-day week.

The first thing the program asks for is 'Day' (press 1, 2, 3, 4, 5, 6, 7 or the up-arrow, where Monday is day one and so on: up-arrow exits from the menu).

Having selected the day for which you want to enter takings, there are two more choices to be made. You have to decide if you are posting takings for normal goods or for 'special' items, like the sale of some asset of yours.

Second, you are asked to key 1, 2 or 3 to debit cash, bank or credit card suspense accounts respectively. If you usually treat all your takings as a cash float, you can dump all the takings to the cash account (no. 60) by keying '1'. If you bank some of the takings and keep the rest as

Next, you are given a chance to enter the amount and to confirm that all the entries you have made are correct. At this point the system debits the cash, bank or suspense account (whichever you instructed) and credits an account called 'takings' (if you entered the takings as normal goods, it credits the 'assets' account if you said the takings resulted from sale of special goods.)

This is a perfectly solid way of building up a picture of a week's takings. Note that it is not individual items sold on each day but only the total summary takings that are entered.

Outgoings

Of course, takings are only half of a business. There are also payments to be made,

NEWSCOPE DEVELOPMENTS LTD

BOOK REST Lightweight rest for books, listings etc fitted on vertical hinge which can be attached to the left or right side of the A-Stack. Same colour and finish as above.

Price: £7.99

A—STACK TV/MONITOR STAND which includes a shelf for disc drives etc and has space to stow a micro when not in use. Strong steel construction with attractive matt cream finish. Size 430mm wide, 200mm high, 360mm deep.

Price: £22.00

Postage & Packing: £4.00

PRINTERS STAND Allows printer to stand over a 2000 sheet box of continuous listing paper. Same colour and finish as A-Stack, also made of steel.

Dimensions are height = 210mm high, depth = 250mm, width = 430mm.

Price: £14.50

Postage and Packing: £3.00

MULTI-WAY POWER BLOCK Up to four separate power supplies for computer and peripherals from a single mains power point. Can be fitted to A-Stack and supplied with four connectors and 2 metre mains cable. Only 150mm x 45mm.

Price: £11.99

LOCKABLE A—STACK SYSTEM

Also available a locking A-Stack System. The unit can be attached to a table top with strong metal locking plate — extra security.

Price: £39.95 including VAT

Postage & Packing: £4.00

If all five items ordered: Postage and Packing FREE! Save £7.00

Orders to: 15B Chemical Rd, West Wilts Trading Estate, Westbury Wilts, Tel: 02214 4425/0373 864644

GAME FREAKS

If you want **JOY STICK** with us

(Commodore Approved)



In 3 months our Quick-Shot Joysticks have become the best sellers for VIC and Atari Home Computers. We now have a range of conversions allowing you to use the Quick-Shot for your Dragon, Oric and Spectrum.

QuickShot™

BY **SPECTRAVIDEO™**

For more information contact

DAVE BISHOP on: 01-203 6366

VULCAN
ELECTRONICS LTD

PILOT 64

— A flight simulation for the CBM 64 —

Using your memory of the route, safely negotiate the cross-winds, military air-zones and other hazards, over sixteen different types of analog and digital read-out, artificial horizon, air-speed indicator, compass, flaps, instrument landing systems and stall warning. Fly your way back to base and land.

price £7.50

And this is what a professional pilot has to say:-

"PILOT 64 represents a very enjoyable and challenging diversion and will test the skill of pilots of any standard. It affords a close approximation of an actual instrument approach and landing in a light aircraft . . . I unhesitatingly recommend this game to anyone who has ever wanted to be a 'Biggles'.

Yours faithfully

A.M. (ATR/QFI/MULTI/INST, B707, B720, B737, DC8 and TRE'on B737)"

ABBEX MAGIC!

FROM: ABBEX ELECTRONICS,

TAVISTOCK HOUSE, 34-36 BROMHAM RD., BEDFORD, BEDS., MK40 2QD.

TEL: 0234 213571/2/3 ext. 2.

Unfortunately, or we'd all get rich quick. Because the system assumes you have two sources of funds (your bank account and your cash float, or cash account) it gives you the option of paying from either.

The payment routine is slightly different from 'takings'. You have to input the date of each payment, and, as with journals, you are given a three digit transaction number (which you could use as the last three numbers of your payment cheque, for example). You have a 16 character description to enter the reason for the payment (normally this would be used to record the person or company paid).

There is also a very reasonable VAT system on payments made from the bank account, which allows you considerable flexibility. You can input 'S' for standard rate, and the system will ask for the gross payment amount to be input. It will then work out the VAT component and the net value of the invoice. The VAT element will be posted to the VAT account. If the payment is zero rated or exempt, you can flag it as such. (I wasn't entirely sure

why this VAT facility wasn't also part of the cash payments option.)

The next step is to credit the full value of the net invoice to whatever nominal ledger account or accounts you choose. The system automatically reduces the remaining balance of the payment by the amounts you allocate, so you can keep a track of the unallocated balance. This too, is a fairly sophisticated feature to find on a cassette based package.

Finally there is the reporting side of the system. This should be adequate for most users. Option 2 on the main menu ('Displays') contains all the summary reports (remember that if you have a printer attached,

you are getting hard copy records of all postings along the way). Displays has three options, each of which have their own sub-menus (1 Nominal Ledger, 2 Statements, 3 VAT). Option 1, Nominal Ledger gives you four separate options (1 A Nominal A/C, 2 All Nominal A/Cs, 3 Trial Balance, 4 Final Accounts). Using this you can view either any or all the nominal account balances and descriptions in the system.

The system works out your profit or loss by adding together all your takings and subtracting from this all your payments. It also shows you your profit as a percentage of your sales - a useful management figure.

Option 2, Statements, gives you the choice between looking at

all your bank account transactions and all your cash account transactions. The system can only store a maximum of 200 of both types, so you have to use a simple routine provided to clear away the transaction details from time to time. Nevertheless, this is a useful option.

The VAT displays show you a summary of all your inputs and outputs for the quarter split by VAT code. It also shows you your total sales and allows you to make various adjustments (ie. for goods bought for your own purposes rather than the business). And it shows you your VAT account for the quarter (ie the amount owed by you or due to you from Customs and Excise).

In conclusion

This is one of the nicest little business systems I have seen for the 'corner store' type company. It won't help you with your stocks, but it will give you an accurate picture of your incomings and outgoings, plus keeping good account of your VAT.

If you don't mind the hassles of using a cassette-based system, you could do far worse.

Under review	Bookkeeping for the Cash Trader
Description: Supplier:	Cassette-based accounting for the 64 Quick-Count Ltd 15 Neeld Crescent London NW4 01-202 5486
Summary:	Very good for the cash trader, even on cassette.
Price:	£78

COMMODORE User

Monthly

The independent magazine for Commodore's small computers, incorporating Vic Computing.

Please enter my annual subscription to Commodore User. I enclose a cheque/postal order made payable to VIC COMPUTING LTD for...

- ☐ £12.00 U.K. ... or use your
☐ £18.00 EUROPE Access/Mastercharge
☐ £32.00 Rest of world number:

Now return this form with your cheque/postal order to:-

**COMMODORE USER SUBSCRIPTIONS
BKT SUBSCRIPTION SERVICES
DOWGATE WORKS, DOUGLAS ROAD
TONBRIDGE, KENT TN9 2TS**

Commodore User is published monthly commencing with the October 1983 issue. Unless you specify otherwise, your subscription will commence with the next issue.

NAME:

ADDRESS

POSTCODE

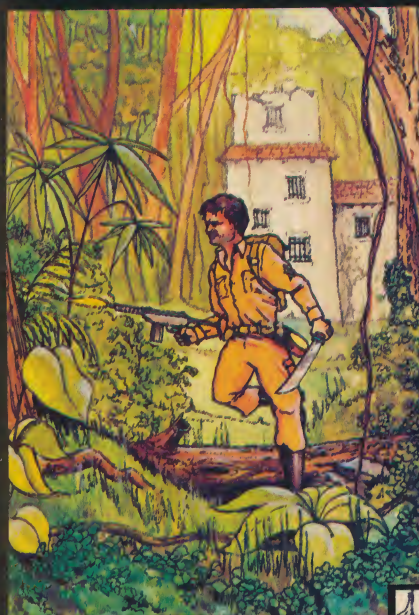
SIGNED:

DATED:

PARAMOUNT

SOFTWARE

for Connoisseurs with COMMODORES



COUNTDOWN

Time is important. Accuracy essential. Courage mandatory. But, above all, Nerve is the prime attribute needed for your mission as an agent in the crack S.M.U. A Superb Arcade / Graphical Adventure. VIC 20 8K or 16K Expansion. Keyboard or Joystick.

£5.50



OUTBACK

".....an addictive game...the Graphics are very good indeed ...there's also a lot of very good programming." Personal Computer News, Dec22-Jan 4 1984. Can you use the very sophisticated defence set-up to beat off the cunning Swagmen ?

Pure Machine Code Action. Fully Featured. Superb colour and Graphics. A game with a difference.

Any VIC20 Joystick. COMMODORE 64 Keyboard or Joystick.

£5.50 & £7.50

CHOCABLOC

A fast moving, pure Machine Code action game, with Chocabloc our hero trying to sort out some Real Cool Choc Bars — until everything goes crazy and the action is on! Arcade standard. Fully Featured. Excellent sound and graphics.

VIC 20 8K or 16K expansion. Keyboard or Joystick.

£6.50



MEGAWARZ

Where does your fantasy go when your mind leaves your body ? Megawarz will take you there you can be sure. High resolution, multi-colour graphics. Sprite graphics. Synthesis sound. Pure Machine Code action. Arcade Standard. A magical planetary trip. COMMODORE 64 Keyboard or Joystick.

£7.50



JOGGER

Truly a jogger amongst joggers. If you have trotted with the rest, now run with the best. Machine Code action. Superlative sound. Creative Colour. A quality programme from Paramount. Any VIC 20. Joystick.

£5.50

WRITING MARKETABLE PROGRAMMES ?

Hitch your wagon to PARAMOUNT. Send for evaluation and terms.

TRADE ENQUIRIES
Tel ; (0642) 604470

PARAMOUNT SOFTWARE

67 Bishopton Lane, Stockton, Cleveland, TS18 1PU.
(England)

CHOCABLOC	£6.50	[]	Name.....
OUTBACK	£5.50	[]	Address.....
OUTBACK 64	£7.50	[]
COUNTDOWN	£5.50	[]
MEGAWARZ	£7.50	[]
JOGGER	£5.50	[]

I enclose cash/cheque/P.O. for £.....

Overseas orders please add £0.50 per item

CU FEB

TOMMY'S TIPS

Tommy is Commodore User's resident know-all. Each month he burrows through a mountain of readers' mail and emerges with a handful of choice queries. The result, before you, is a wodge of priceless information and indispensable advice. There's even the odd useful tip as well.



Dear Tommy, I have written a small program for stock input and control on a daily basis: it is designed to read from or write to alternating tapes. How can I automatically transfer variables that will change daily to a string to write to tape? I have only been successful so far if I retype each variable into a string for transmission to tape.

The best way to handle this is to hold all the values for each file record in arrays. For instance, we might have two arrays: one called PN\$() holds all the product names, another called PD() has the details. So for the Ith item on the stock file we have:

PD(0,I) Buying Price
PD(1,I) Selling Price
PD(2,I) Opening Quantity
PD(3,I) Closing Quantity

I don't know how complicated your stock control system is; but from these four values you could calculate quantity sold, value sold and gross profit.

Before constructing a record we have to convert each of these to string format. What's more, each string has to be a constant length; so that when we read the data back we know where one field ends and the next begins. This is quite easy to do:

```
100 SP$=""
200 RS=PN$(I): REM INITIALISE RECORD STRING
210 FOR J=0 TO 3: RS = RS + RIGHT$(SP$+STR$(PD(J,I)),6): NEXT
```

This turns each value into a string six characters long. This may be too large or too small depending

upon how big your numbers are. We can now write routines to read the stock file and to write it back again:

```
100 SP$=""
110 DIM PN$(100), PD$(3,100)
200 REM READ FILE
210 OPEN 1,1,0,"STOCKFILE"
220 FOR I = 1 TO 100: INPUT #1, RS: IF ST=64 THEN N=I-1: I=100: GOTO 250
230 PN$(I) = LEFT$(RS, 10)
240 FOR J = 0 TO 3: PD(J,I) = VAL(MID$(RS,11+6*J,6)): NEXT
250 NEXT: CLOSE 1
300 REM PUT YOUR PROGRAM TO UPDATE THE STOCK FILE HERE
310 REM NOTE THAT N CONTAINS THE NUMBER OF RECORDS READ
400 OPEN 1,1,1,"STOCKFILE"
410 FOR I = 1 TO N
420 RS = PN$(I)
430 FOR J=0 TO 3: RS = RS + RIGHT$(SP$+STR$(PD(J,I)),6): NEXT
440 NEXT: CLOSE 1
```

In practice you would check ST after each file access to make sure that no error had occurred. I hope that I have given you enough clues to carry on!

Dear Tommy, I have a query relating to the Basic connected with the operation of the joystick. I can get the joystick to work on my Vic by copying the code:

```
POKE 37139,0; POKE 37154,127
J1 + PEEK (37137)
J2 + PEEK (37152)
DR + 22 * (J1 AND 4 + 0) (J1 AND 16 + 0) - 22 * (J1 AND 8 + 0) - (J2 AND 128 + 0)
```

But how does it work? Why does (J1 AND 4 + 0) give -1 when J1 + 250? And assuming a base of 254 from that, why does (J2 AND 128 + 0) give -1 when J2 + 119 - which implies a base of 247?

The values of J1 and J2 are eight-bit numbers obtained from the hardware by the PEEK function. The

AND operator used in the equation for DR is one of the logical operators, and is used for testing individual bits in a number.

The way it works goes like this. If we AND two numbers together, we get another number each bit of which is '1' if (and only if) both the corresponding bits in the two operands is a '1'.

Just like being back at school, isn't it? Which reminds me that I used to be my maths teacher's pet! Well, she kept putting kisses next to my sums anyway ...

If we convert 250 and 119 to binary we get ...

```
250 + 11111010
4 + 00000100
119 + 01101111
128 + 10000000
```

From this we can see that 250 AND 4 is 0, and 119 AND 128 is also 0. Now if we say (0 + 0), this is called a relational operation, which gives two values, TRUE and FALSE. TRUE has a numeric value of -1; FALSE a value of 0.

So if we say PRINT (0 + 0) we should see -1, because the bit patterns match: and (0 + 0) is TRUE. Similarly (250 AND 4 + 0) is also TRUE, because (250 and 4) produces a value of 0 for the comparison.

I hope this has cleared up your difficulty; but to really understand AND and OR, you need to be able to convert numbers to and from binary easily. The easiest way to do this is to write a program to do it, or write one to print you out a conversion chart.

Dear Tommy, Help! I want to program high resolution on my expanded Vic. I have read the Programmers' Reference Guide, but pages 82 to 88 give only the settings for the unexpanded Vic. I have POKEd 52 and 56: I have put characters into 7168, 4608 and various places up to 32768: but I still get garbage out, so I must be putting garbage in. How do I protect the graphics and where do I put them?

How big is your expanded Vic? As-



suming that you have an 8K or greater expansion, try this:

```
100 POKE 36866,148
110 POKE 36867,21
120 POKE 36869,252
```

This defines the screen as 20 rows and 20 columns, and puts the character generator at 4096 to 7296, the video RAM from 7680 to 8191 and the colour RAM from 38400 to 38911.

Basic now has to be moved to start at 8192. This is done by a POKE 44,32 before loading the hires program. The fact that 36867 is an odd number means that we have selected the 16x8 character format which allows us to use a 20x20 character screen, which has 400 characters rather than being limited to one of only 256 characters.

Tommy

The best accessory for your micro



ONLY
£34.49

(P+P £2.50)

The Rotronics Portable Case

Here is the ideal portable work station for home, school or work. Specially made for most home microcomputers, it contains your VIC 20 or CBM 64 within a smart executive style case with removable lid for convenience in use.

The individually tailored foam insert securely protects your micro and cassette recorder (both types) during

transit. Additional storage space in the lid holds manuals and up to twenty cassettes. A scalpel is provided to modify the insert for expansion units and an alternative insert can be supplied if you change your hardware in the future. The case is also available with uncut foam inserts.

All components remain fully operational within the case via inter-connections

routed between the double layers of foam, so there are no unsightly leads.

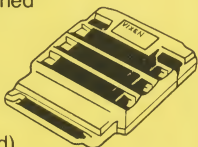
This is the first case designed for easy use with each component positioned for convenient operation. The overall dimensions are 138mm x 700mm x 363mm.

VIXEN RAM Cartridge

Versatile unit with switchable memory blocks. Allows standard 16K BASIC memory expansion, or RAM to be relocated for machine code use. Two VIXENs may be combined (using the Motherboard) and set so as to fully expand the VIC to 32K. £34.45 (p+p 50p)

VIXEN Motherboard

Allows up to four cartridges to share the VIC 20 expansion connector. Switches allow two of these ports to be switched in or out, or to be relocated in memory. The VIXEN also incorporates a socket which accepts software in PROM form: a utility PROM is already available (not supplied) which adds 18 new and useful commands to VIC BASIC. £31.95 (p+p 50p)



Order Form

Trade Enquiries Welcome

Please send me (tick appropriate box)

- ☐ Rotronics Portable Case at £36.99 (inc. £2.50 p+p) for VIC 20/CBM 64/Uncut Foam (please delete as necessary)
- ☐ Vixen 16K Switchable RAM Cartridge at £34.95 (inc. 50p p+p)
- ☐ Vixen Switchable Motherboard at £32.45 (inc. 50p p+p)

All prices inclusive of VAT

I enclose a cheque/PO for £ _____ made payable to SMT.

Name _____

Address _____

SMT

Please allow 28 days for delivery. Send to (no stamp required)
FREEPOST Greens Norton Towcester Northants NN12 8BR

CU-2-84

Write away

Write

This is your page: normally we write for you, but here we listen. Feel free to let us know what you think – about the magazine, about Commodore, about suppliers, about life, art, the meaning of existence or whatever. We don't print everything we receive, of course; but anything that might be of specific relevance or general interest will make it to these pages.

Encore, encore

I should like to endorse the views expressed by S.J. Poulter which appeared in *Write Away*, **Commodore User**, December 1983. There must be a vast number of Commodore owners like myself who would place themselves between the novice and expert and for who **Commodore User** does not really cater. I come into contact with other computers besides Commodore and of the popular computing magazines I would consider the approach and format of *The Micro User* and more particularly *The Electron User* the best that I have seen although I'd still say that they were not sufficiently 'beginner'-structured.

I have made written enquiries before to **Vic Computing** concerning the Logo Language and the use of printers (both of general interest to computer owners) and have never received any reply. It is important that if subscribers are to feel some identity with a magazine it should be one with which they can communicate.

Lastly there is a point which really concerns Commodore themselves – and I am certain that there must be many Vic owners who feel the same. I have owned a Vic for two years; it cost £189.95 plus £40.25 for the cassette deck. I later bought 'Introduction to Basic' Parts I and II costing £14.95 each and a 16K RAM pack at £74.95 – totalling £335.05. Now the same items (Vic + Cassette deck + Introduction to Basic I & II) costs £139.95 and a 16K RAM pack is £39.95 – total £179.90.

Whilst it is good to see prices drop perhaps one might expect to pay a little for being early in the field I consider the price differential hard to swallow, especially since four other people have bought Vic's largely on my recommendation. I consider that some gesture of recompense from

Commodore (such as a voucher against a 64 or peripherals) would be in their own interests. In a few years when I would wish to update my system, my experience of paying dearly for being an early buyer from Commodore will strongly influence my decision of which equipment to buy. I realise that you must be aware of the above problem but feel that it might usefully be restated since you should be able to influence Commodore more than I.

W.J. Howard, 30 Cowper Road,
Boxmoor, Hemel Hempstead,
Herts HP1 1PE.

Stephen Poulter's letter generated a substantial postbag which split almost 50:50 in support and opposition. One of our editorial problems is the range and variety of our readers, and obviously in a modestly-sized monthly magazine we can't hope to cover all the requirements of all the subscribers. The balance between beginners and more advanced users is a tricky one to find; we can't replace either a introductory text or a programmer's reference manual, so at the moment we're trying quite deliberately to pitch the magazine at a level just beyond the mean – for the purpose of editorial planning we tend to assume that our readers have had the computer for some months, for instance, but haven't yet got stuck into assembler.

That's a blanket view, of course, and we try to run some items that will appeal to the more experienced – and some for the novice as well. The difficulty with writing for the rank beginner is that it bores the rest of the readers while explaining matters less effectively than a tutorial. We're not in the education business per se: instead we attempt to function as a selective filter for the kind of information that is not

readily available in the many introductory books.

On the other hand, we have carried some very low-level 'how to do it' articles. Then the problem becomes one of timing: there's just so much that we can say in a monthly magazine of modest size running shortish articles, and we can't afford to repeat ourselves too frequently.

Now, all of this might be cold comfort: but at least I'd hope you believe that the level of the magazine is something which does concern us. As it happens, the readership of **Commodore User** does seem to be increasing among what you might call 'novices'; and for that reason we do plan to increase the amount of beginners' material in the mag.

I guess it would help if some readers could take a moment to synthesise the kind of articles that you would be interested in reading in the mag. (That's what Stephen Poulter did, actually, and some of the ideas he listed have already been commissioned.)

And so on to the question about lack of response from us to queries about Logo and printers. We get about 50 letters a week now, and we do try to respond to them all. Some we did miss in the hectic days just after we started up, it's true. It does seem we didn't receive either letter.

We don't know what the printer query was, but Logo is being readied as a 64 cartridge by Commodore (it's already available in the States). We know of no plans for a Vic version, though Logo should fit into an expansion cartridge easily enough.

And so to the question of prices. Frankly, we couldn't agree with you more. We pressed Commodore on this a year ago and in our Christmas 1982 issue Marketing Manager John Baxter

Write away

Technical matters get passed to Tommy for eventual emergence on the Tommy's Tips pages. But anything else ends up here. Address your comments, complaints, queries and congratulations to The Editor, *Commodore User*.

said there would be a 64-for-Vic offer. Since then the official comment is 'we haven't decided when it will happen'.

More cold comfort. We'll carry on agitating, but Commodore is notoriously unsusceptible to the press. Maybe something like a mass mailing of complaints would help; perhaps someone should organise that?

Thanks for writing, anyhow: we rarely get constructive comments.

Attaching a decent printer

I have just read your article in the October *Commodore User* with a lot of interest. For most of the reasons that you mention in your article I decided on a CP-80 Type 1.

While I am very happy with the results to date I would like to be able to download the Commodore character set if this is possible. I would be obliged if you could advise me if this is possible with my set up (Vic-20 and CP-80). If it is not as things stand at the moment, what would I need to do or add on?

R. W. Noakes, West Hall,
Puddington Lane, Puddington,
Cheshire, L64 5ST

Unfortunately the CP-80 does not have the facility to define a new set of characters; you are stuck with the ones that come with the printer. I said in my article that if you bought the RX-80 instead of the FX-80 then you could do everything except download the Commodore character set; I am afraid you are in the same position. There are however some graphics characters available on the CP-80 similar to many of the Commodore graphics; these can be accessed from programs if you know which character position they occupy, but listings are a different problem.

If you just want the control characters to be made readable then the 'VICSPRINT' interface from RAM Electronics (Fleet) Ltd (£57.50) converts the codes into meaningful strings (e.g. [RED]). If you only have a software interface at present, then it might be worth spending the extra for the hardware interface to get readable listings.

Quick Brown Fox revisited

We have read with interest your review of our Quick Brown Fox word processor in the December issue of *Commodore User*. There are some factual mistakes which perhaps you would be kind enough to correct in the next issue.

1 Automatic Page Numbering is available. The page number to start at can be specified and can be positioned at the top or bottom of the page in the centre or at the side or omitted altogether.

2 Headers or Footers can be inserted automatically on each page. Up to 16 characters can be entered and can be positioned at the top or bottom of the page.

3 The INSERT key (shifted Delete) does function to allow insertions during Line Edit mode and immediately enters Line Edit mode for insertions at the cursor position if used during Type mode.

4 Edit mode can be accessed from Type mode directly without reference to the Main Menu simply by hitting ESC once.

5 Print Presets are available. After selecting P from the Main Menu holding down the SPACE or RETURN key will select defaults. Some defaults (e.g. Printer device number) can be changed by answering the questions the first time print is required.

6 Boilerplates do not allow merging from a disk (or tape) file. This is taken care of by the Merge option from the Clerk menu.

7 View (or preview) does produce exactly what will appear on paper. With the severe limitation of 40 column screen displays this is not very helpful but with 80 columns is superb.

Perhaps the use of the INSERT key and the ease of getting into LEDIT mode, which you did not appreciate, would have reduced your dislike of the editing method.

Regarding the 80-column adaptor we find it surprising that it would not work with your monitor,

standard composite video at IV level should drive almost anything but perhaps your monitor requires TTL input. By the way, UHF output can be obtained by using a Commodore modulator; Vic-20 owners already have one, but TV definition just is not good enough for 80-column working.

We would be pleased to loan you, for a further review, a monitor which will give you a good definition of 80 columns...

Jacquie Holland, SPT
Electronics Ltd. Tollesbury,
Essex CM9 8SE.

The Editor,
Commodore User,
The Metropolitan,
Enfield Road,
London N15 2Z

Against Expansion

David Jones wrote in August wanting you to print programs which require extra memory. I have an 8K expander myself, and have typed in a program using almost all the extra memory – and was it ever tiring! It almost wasn't worth the effort – I find many expanded programs are really just inefficient programs of what could have been done in the unexpanded Vic.

Commodore's *Alien* cartridge is a good example of this. I have a cassette program called *Alien 2*, which fits into the unexpanded Vic; and I feel it is just as good (except a bit slower and more jerky) – and this is a program written *totally* in Basic, with defined characters etc.

When I review a game cartridge, I like to see if they just put it in for convenience, bringing extra cost to the consumer.

I would also like to notify your readers of a company which I feel is very good – and answers questions from buyers. The company is Interface Publications. I ordered two books from them, and they sent them to me (overseas), in perfect condition.

The listings in one of the books were not of an exceptionally high quality, so I wrote them to see if they could help. They informed me that the book was being reprinted – and that when it was they would send me a complimentary copy at no cost. This is the kind of customer service which I appreciate, and they can expect me to order from them again.

Just for the record, I have no ties with this company, and was not asked to write this letter.

Neil Phillips, PO Box 1489, Niagara, Ontario, Canada L0S 1J0.

And again (sort of)

I would like to reply to the comments Mr. Grant of Victay made about my complaint of his 747 Pilot program (see the January issue). Twice in his letter to you he stated that I returned the cassette six weeks after its receipt. This is true: but what he does not mention is that I had told him that my Vic-20 was with Commodore being repaired for four of those weeks!

Also in the letter I asked eight questions about the program and he chose to ignore most of them, blaming lack of memory on the fact that there is no runway display and stating that heavy jets glide quite well. I managed to 'glide' mine for over 300 miles with no fuel and no power. Can that be right?

In his letter to your magazine he quotes one of my questions as "what does mach number mean?". I did not ask that. I said "what is the significance of the mach no. as the airspeed is already shown". Mach no. has no relevance to the program: and I know what mach number means.

Mr. Grant claims that his program is based on Boeing airframe data. I was under the impression that 747's had undercarriages; the ones I've flown in do. But not Mr. Grant's! This is surely of paramount importance as the wheels down affect the drag and stall factor of the aircraft, which must play a part in the authenticity of the program.

The most irritating omission is that there are no navigational problems built in or directions to follow. Having taken off (a 9,000 mile long runway) there are no directions as to where to fly or what to do. You stooge around and have to use your imagination as to where you are flying. Yes, the heading does change with the bank of the aircraft; but is it totally meaningless as it has no relevance. If and when you do manage to land, the program immediately jumps back to the start so you get no rating as to your performance. It would be nice to know these things so that you see if you're improving.

Then Mr. Grant states that I was expecting a £1 million Flight Simulator for my money. I *did* expect value for money; and I did not get it. I would have willingly paid more if I thought that the program warranted it, and he knows it. The fact of the matter is that such a program should have been written in machine code and not Basic, for obvious reasons. And that is what one should expect from software companies these days. Mr. Grant would do well to remember that the 'customer is always right'.

Finally, I now have a 64 and have found a very good Flight Simulator program in *The Commodore 64 Program Book* by Vince Apps. Considering there are 24 other programs in the book, at £4.95 it has to be good value. The aircraft has wheels which affect the handling, no 9,000-mile runway, terrain of varying heights etc etc. All in all quite a realistic program.

J. Farrar, "Elm Cottage", 2 Marsh Lane, Hayle, Cornwall, TR27 4PS.

Discoveries

I am writing to tell Mr A.J. Grant of Victay Software that he owes Ferranti and Davenport Software Ltd £100. Not only has this software company produced a superior flight simulation to Mr. Grant's effort but has made it a pound cheaper and has found a way to run it on an unexpanded machine. Better luck next time, Mr. Grant...

A. Keasey, 34 Shaws Lane, Walsall, WS6 6EQ, Staffs.

DON'T GET LEFT BEHIND!

Use the order coupon below to make sure you get your monthly copy

To my newsagent:

Please send/reserve me a copy of *Commodore User* every month until further notice.

Name:

Address:

Sherborne Designs

Vic 20/64

Padded Carry Bag

NEW

Quilted lining quality water proof material with strong nylon strapping handles holds Vic/64 + Cassette + Power Pack

£30.00 including p&p + VAT

Also Dust Covers available for the entire Commodore range.

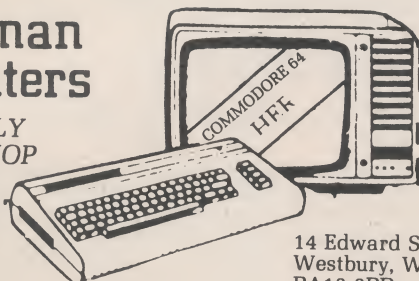
15B Chemical Rd, West Wilts Trading Estate
Westbury, Wilts

Everyman Computers

YOUR FRIENDLY
COMPUTER SHOP
IN WILTSHIRE

VIC PRINTERS
DISC DRIVES
SOFTWARE -
DUST COVERS
BOOKS, CARTRIDGES

Commodore 64 - THE BEST VALUE ON THE MARKET



14 Edward Street,
Westbury, Wilts
BA13 3BD

(0373) 864644



DERBY

CBM64 AND VIC20 DEALERS

We have the largest selection
of hardware, software and books
in the area.

FIRST BYTE COMPUTERS,

10 MAIN CENTRE,
LONDON ROAD, DERBY.
TEL: 0332 365280

Y-E-S Vic 20 & 64

SALES & SERVICE

COMPUTERS

**SAY YES FOR COMMODORE
HARDWARE, SOFTWARE & PERIPHERALS**

YORKSHIRE
ELECTRONICS
SERVICES
LIMITED

Caxton House,
17, Fountain Street,
Morley, West Yorkshire
Tel: 0532-522181

Sumlock

MANCHESTER.

Commodore appointed VIC 20 dealer.
Permanent showroom-shop display.
Hardware-Software-Accessories.
Books-Service-Maintenance.

Personal computers with Personal service.

198 DEANS GATE, MANCHESTER.
TELEPHONE 061 834 4233.

BUSINESS ELECTRONICS LTD.

'The Microcomputer Specialists'

ROWNHAMS HOUSE, ROWNHAMS, SOUTHAMPTON SO1 8AH
TEL: SOUTHAMPTON (0703) 738248/739092 (Sales)

for

CBM 64 ★ 700 ★ BBC MICRO ★ APPLE ★ SIRIUS

Also **Micro-Naglo** in the Basement of Plummers

Above Bar, SOUTHAMPTON Telephone 0703-25903

Classified

Vic 20 plus 16K Rampack also C2N joystick, books, mags, plenty of software, will consider splitting. All offers to A. Westrop 21 Gosfield Rd, Epsom.

More than 80 utilities and games to swap. Basic programs compiled to run up to 40 times faster! Phone 01-748 8178 9am-7pm any day.

CBM64 software for sale. £160 worth of the best software incl. Manic Miner, Howler Bover, Revenge of Camels, Hobbit, etc. All for only £60. Tel 0555 72175 after 5pm. Ask for David.

Hey! Have you got a 16K or 16K switchable RAM you want to sell? If so contact Steven or telephone (0992) 460175 or write to 14 Granville Gardens, Hoddesdon, Herts.

Commodore 64 Database DATAPRO.

Powerful options include: Print all/selective records, delete, amend, save, load, copy, alphanumeric sort, user defined fields, memory check, total numeric fields, multi field interrelational, global and between limits searches etc. Fully menu driven with comprehensive easy to use instructions. Disk and cassette fully compiled. Outstanding value:- cassette £7.45, disk £10.25. Fast delivery by first class mail. Send cheque/PO to: A & C SOFTWARE, 51 Ashtree Rd, Tividale, W. Midlands B69 2HD.

WE REPAIR VIC JOYSTICKS

(Commodore approved)
Send £2.95+50p p&p. Add £1.50 for handle-top fire button & contoured grip if required. COMPUTER SUPPLIES, 146 Church Rd, Boston PE21 0JX.

Vic 20 Users. Would you like to save M/C. programs written in stack, or anywhere in memory below \$8000 (32768 dec.), and load them back using a 'Basic' load. Also be able to save mixed M/C & Basic programs. If so you need EASYSAVE which is supplied on cassette with instructions for use (+ list of other programs available) at \$4.95 from:- Minversound Ltd, 8 Frederick Street, Luton, Beds LU2 7QS.

Original programs and programmers wanted for CBM64; for education (home and school); business; research and statistics. Expert or interactive or multiuser programs including simulations especially but not exclusively wanted. Contact with sample: G.W. & A Hesketh (Publishers), Cronos Software, PO Box 8, Ormskirk L39 5HH.

CLASSIFIED ADS

STAY FRIDAY TO SUNDAY at one of Worcestershire's finest Hotels and learn "Basic" on Commodore 64s. All rooms have bath, colour TV, etc. 14 hours of instruction from a qualified lecturer, maximum of 20 people on each course. 10 computers. Cost £65.00 fully inclusive. Write for brochure to: Gainsborough House Hotel, Bewdley Hill, Kidderminster. Tel: 0562 754041.

For sale printer Commodore 1515 suitable for Vic 20 or 64 hardly used £100. Telephone after 5pm. Wellingborough 223329.

A blank 10x10 grid for graphing, consisting of 10 columns and 10 rows of squares.

COMMODORE User

ISSN 0265-721X

CLASSIFIED ADS
Commodore User
The Metropolitan
Enfield Road
London N1 5AZ

From CDS, the ultimate challenge **'COLOSSUS CHESS 2-0'**

by Martin Bryant

CDS Micro Systems

**COLOSSUS
CHESS 2-0**



COMMODORE 64

*for both
the chess
player and the
chess master*

*the finest
chess program
ever written.
Available for the
Commodore 64
£9.95*

CDS Micro Systems

FRENCH IS FUN



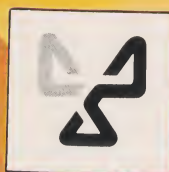
Commodore 64

CDS Micro Systems

GERMAN IS FUN



Commodore 64



*Available soon....
educational programs
for the Commodore 64*

CDS Micro Systems

Available from leading Computer Stores, or...
Send Cheque or P.O. To CDS 10, Westfield Close, Tickhill,
Doncaster DN11 9LA. Tel: (0302) 744129.

(Trade enquiries welcome)



A new age has dawned with the **STACK LIGHTPEN**

It's a new, easier way to creative software and it's fun too! The Stack Light Pen means freedom from the old labours of the keyboard and a new software style for the future.

Using the Light Pen means you can create programs, including games, with that extra dimension...control, at the touch of the pen. With your Light Pen you can remove words or images from the screen or put them back onto it, or simply move them about the screen. You can even trigger off a series of actions on screen, stopping them at will...with the touch of the Light Pen!

Already
Available
For

BBC

ATARI

VIC-20

**COMMODORE
64**

And it's so easy to use...simply hold it against the screen, touch the contacts and away you go!

LIGHTPEN SOFTWARE

We've already created software for you to use with your Stack Light Pen...

DRAUGHTS, GO, LIFE, CROSSWORD TWISTER, SIMON, OTHELLO, SEEK & DESTROY, SHUFFLER, LOST IN THE LABYRINTH and there's more on the way!!

**STACK LIGHT PENS and SOFTWARE are available from your
LOCAL DEALER or direct from:**

STACK COMPUTER SERVICES LTD. 290-298 Derby Road, Bootle, Merseyside L20 8LN.
(24 HRS) Telephone 051-933 5511, Telex 627026 (Stack G).

Please supply..... LIGHTPENS for the

BBC ☐ **Atari** ☐ **VIC-20** ☐ **Commodore 64** ☐

at £25.00 each £

and the following Software titles.....

at £5.00 each £

Add VAT at 15% £

I enclose a cheque/PO for £

TOTAL £

Please charge £.....to my credit card (specify card)

Card No. Name

Address



Access,
Barclaycard Visa,
American Express
Diners